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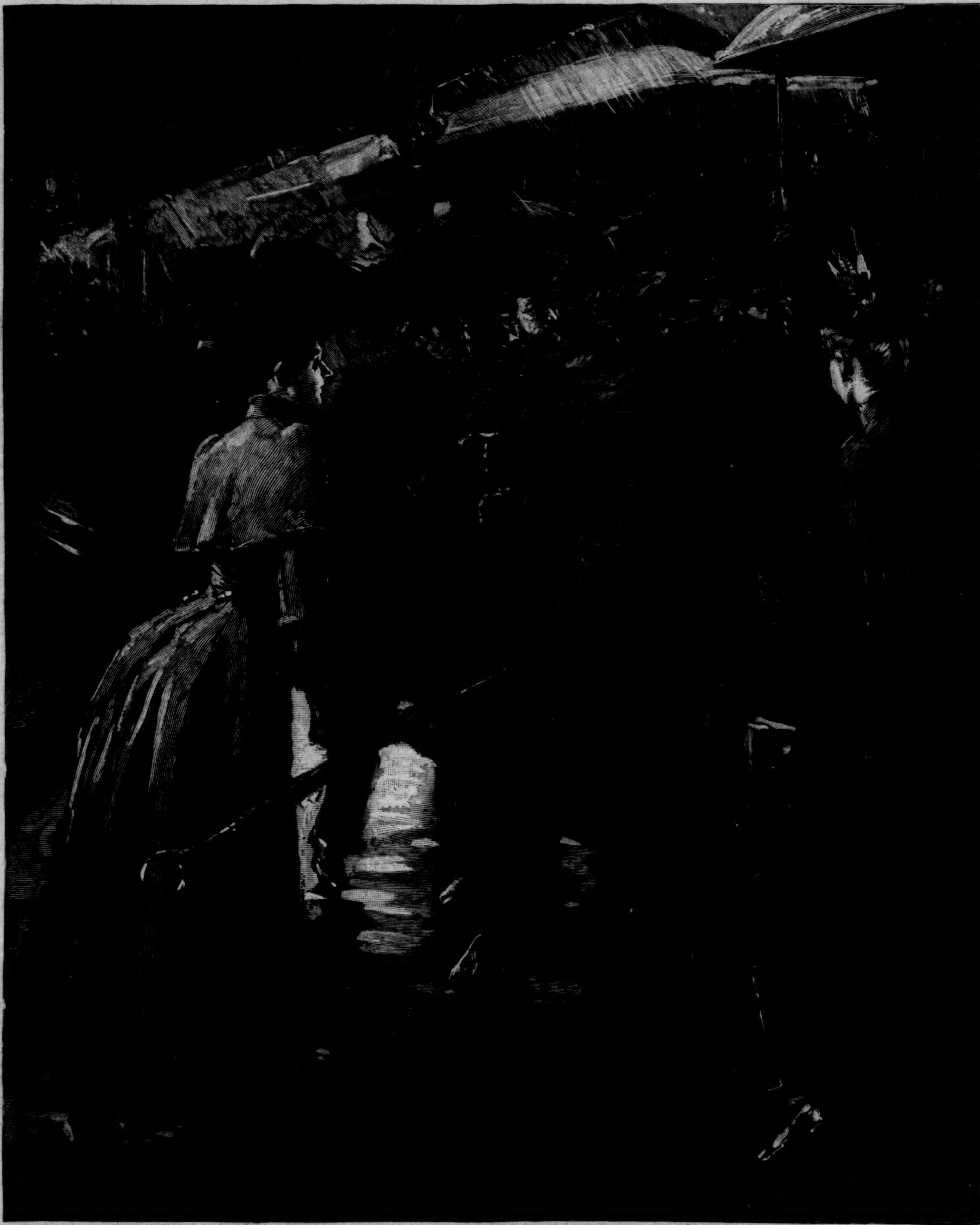

A STATION SCENE IN THE "RUSH" HOURS ON THE MANHATTAN ELEVATED RAILROAD.—Drawn by T. de Thulstrup.—[See Page 103.]

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FEBRUARY.

THE STANDING ARMY OF GREAT BRITAIN. By General Viscount WOLSELEY. With eight illustrations drawn by R. CATON WOODVILLE.

TALKS WITH EDISON. By GEORGE PARSONS LATHROP.

A MAJESTIC LITERARY FOSSIL. By MARK TWAIN. Inquiry into the crimes of a *Dictionary of Medicine*.

THE NEW YORK BANKS. By RICHARD WHEATLEY. With eight illustrations from a photograph and drawings by T. DE THULSTRUP, HUGHSON HAWLEY, and W. P. SNYDER.

JAMAICA, NEW AND OLD. (Second and concluding paper.) By HOWARD PYLE. With twenty-three illustrations drawn by the author.

NIGHTS AND DAYS WITH DE QUINCEY. By JAMES HOGG. Personal reminiscences.

THE LAKE DWELLERS. By S. H. M. BYERS. With thirteen illustrations from a photograph and drawings by CHARLES GRAHAM.

A NOVELETTE AND SHORT STORIES: Youma (Conclusion). By LAFCADIO HEARN.—A Platonic Affair. By HJALMAR H. BOYESEN.—The Twenty-ninth of February. By BRANDER MATTHEWS.

BENVENUTO CELLINI. By ELIZABETH WORMELEY LATIMER. With eight illustrations.

SEVEN STRIKING POEMS: Happiness. By CARLOTTA PERRY.—The Song of Monterey. By FRANCES L. MACE.—The Tryst. By HARRIET PRESCOTT SPOFFORD.—The Sun Cup. By A. LAMPMAN.—A Prayer (Sonnet). By B. R. BULKELEY.—The Ship that Sailed. By WILLIAM WINTER.—Anticlimax. By RICHARD E. BURTON.

HAMPERED WITH A CONSCIENCE! Full-page drawing by GEORGE DU MAURIER.

EDITORIAL DEPARTMENTS: The Easy Chair. By GEORGE WILLIAM CURTIS.—The Study. By WILLIAM DEAN HOWELLS.—The Drawer. Conducted by CHARLES DUDLEY WARNER.

LITERARY NOTES. By LAURENCE HUTTON.

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AN ADMIRABLE TREATY.

THE new treaty with Great Britain, extending the provisions of the treaty of 1842 to include many other offences, is an act of international comity which will receive universal approval. It has long been discreditable to both countries that Canada, separated from us at many points only by an invisible line, should be a retreat for rogues and thieves, who quietly stepped over the line, and laughed at our impotence to reclaim and punish them. As Mr. BLAINE says, in the letter accompanying the treaty, "crimes among the most dangerous to social order have been committed with impunity," owing to the complete security of an easy retreat to Canada. The treaty remedies this situation, which ought not to exist as between two friendly civilized states, and which, in fact, does not exist in our relations with other powers than Great Britain. The principle of the treaty is extradition for common crimes which are punishable by the laws of civilized states, "and not such as are made penal in any particular country by reason of peculiar conditions there existing."

The treaty carefully excludes from its provisions extradition for political offences, or when it is shown that whatever the pretence of the requisition, it really seeks a political offender; and the treaty provides that if a question should arise under this article, it shall be decided without appeal by the power within whose jurisdiction the fugitive shall be. This is an excellent, simple, and conclusive provision. It authorizes each power to judge for itself what constitutes a political offence, and it secures the right of asylum, by which free countries properly check the excesses of arbitrary power in countries beyond their jurisdiction. The good sense and justice of the treaty are illustrative of the character of the two powers by whose representatives it has been concluded. Ratification by the Senate may be assumed, although a good foreign convention is so great an advantage for the party of the administration which effects it that some ingenious party sparring may be perhaps fairly expected. The point upon which, if possible, some political gain would be sought is, of course, the article referring to the surrender of political offenders. But this is so well guarded by an old party hand that no successful assault can be made upon it. The article is an admirable statement of the American doctrine upon the subject. In making a treaty with Great Britain every American statesman has in mind the Irish vote, and no Democratic Senator is likely to be more mindful of it than the Republican Secretary of State.

There is always satisfaction in contemplating international acts which are, what they ought to be, frank and simple, and without ulterior aims. The two great powers in the world which for the highest reasons ought to be in friendly accord are the United States and Great Britain. This is a truth which is as evident as the other, that the traditional distrust of the mother country has played a great part in our politics, and to this distrust has been added of late years the American desire to propitiate the Irish vote, a purpose which has produced some pitiable results. There is really, as every well-informed observer knows, the heartiest sympathy between the best intelligence of both countries, and he is not a friend of either who does not seek in every honorable way to strengthen and extend that sympathy, and who does not scorn to make a foreign jealousy affect purely domestic politics.

DOM PEDRO AS A PATRIOT.

THERE was never a more remarkable spectacle of the kind than the relation of Dom PEDRO of Brazil to the revolution in that country. One of our poets addresses one of his friends as "the civil time's sole patriot," and the old Emperor's feeling for Brazil is not surpassed in fidelity and tenderness by that of any of the revolutionary leaders. He is reported to have said at Cannes to an Associated Press reporter that the revolution would be probably permanent unless there should be an attempted dictatorship. But even an unpopular sovereign, said the old monarch, ruefully, is preferable to a dictator. He added that he had tried to give the Brazilians a good government. Attributing without hesitation the revolutionary movement to emancipation, Dom PEDRO said that his support of the emancipation act undoubtedly made enemies for the crown and divided his cabinet. The slavery members resigned when he signed the bill, and many of their friends joined the Republicans merely as an opposition and as a means of exciting discontent. To avert trouble, he proposed to grant the larger part of the Republican demands, and even to form a Republican cabinet, in which he offered a seat to General DE FONSECA. When the Republicans declined co-operation, he offered to submit the question of a change of government to the people, promising to yield to the popular wish. The reply was that which always comes to such a royal proposition at such a moment—"Too late."

The ex-Emperor said that he had no thought of abdicating, but that if he should be elected President, he would gladly return. Indeed, he would return eagerly, whether as Emperor, President, or private citizen. It is all very touching, and it is certainly unprecedented. It explains also the universal kindly feeling for Dom PEDRO in Brazil. At no time has there been any sign of personal hostility. Yet the monarch against whose rule a revolution rises is generally regarded as the representation and embodiment of the wrongs which the revolution seeks to right. It is probably true that the curious situation in Brazil is symbolical of that in a greater or less degree in every civilized monarchy. The French Revolution destroyed the regal tradition, and really established in the public mind of monarchical countries the doctrine of the revolution of 1688 in England—of a contract between King and People. The kind of fight which CHARLES I. made for his crown will hardly be made again in enlightened countries, because the revolution will take place in public opinion before it proceeds to action.

It is probably the general conviction that if the British form of government should be changed, it would be accomplished virtually by consent rather than by armed force. Public opinion governs in England as much as in the United States, and the crown or monarchy, as such, cannot infringe upon popular liberties. Dom PEDRO in Brazil evidently regarded himself as a royal tenant at will, and that is becoming the conviction of monarchs in general. In Prussia the regal tradition is imposing and strong. But its strength lies in no glamour or fiction of monarchy, but in the deep conviction that monarchy is most expedient in the actual situation. In Italy the real sentiment of the country undoubtedly prevails in the government, and the King would retire in an actual exigency as LOUIS PHILIPPE retired from France in 1848. There could be nothing more characteristically modern than Dom PEDRO's pathetic remark that he would gladly return to Brazil as Emperor or President or private citizen.

A GOOD WORD FROM NEW JERSEY.

THE old phrase "the United States and the Jerseys" was a sarcastic fling at our excellent neighbor beyond the Hudson. Still later the sobriquet "the State of Camden and Amboy" was not suggestive of a high conception of our neighbor; and even Mr. EMERSON, in one of his essays, unconsciously testifies to a familiar sentiment in saying that "the Jerseys were good enough for the feet of WASHINGTON." It is not to New Jersey that the country has always looked for progressive leadership, and it was therefore with unusual surprise and pleasure that Governor ABBETT's strong plea for ballot reform was received, and that we hear of a bill preparing to introduce civil service reform into the municipal government of the State. Governor ABBETT's argument is the more significant because he is a Democrat who is supposed to cherish certain ambitions or hopes, and his strong advocacy of the reform must be regarded as proof of his conviction that it is not a whim, but a settled and growing purpose of the people. It is also another interesting sign of the contest in the Democratic party between progressive and reactionary tendencies.

This is a contest which every good citizen should hail with pleasure and watch with great interest. If some day we should find ourselves in that millennial condition in which we should have to decide not which party is, upon the whole, least venal and mischievous, but which is more truly honest and progressive, there would be general bewilderment. If he may decide by the representations of the ever faithful press, the perplexed citizen is now asked at an election to express by his vote his preference between a government of rebel brigadiers and one of floaters in blocks of five. On the one hand he is assured that the word Democrat signifies treason and ruin, and on the other that the word Republican means corruption and destruction. His mental confusion is not relieved by seeing in one State a Democratic Governor denouncing a reform as fatal to the rights of the people, and in the next State a Democratic Governor extolling it as the hope of a free republic. The worthy citizen regains his mental equilibrium only by perceiving that he must look beyond a party name, and govern his action partywise by evident party tendencies. For it is plain that party names do not describe the views of party adherents upon some of the most pressing public questions of the time. Mr. BUTTERWORTH declares that he is rather a Republican *enragé*, but he advocates free-trade or reciprocity with Canada. Civil Service Commissioner THOMPSON is an unquestionable Democrat, but he is an uncompromising friend of civil service reform.

Such facts show that certain measures are so good in themselves, or are believed to be so popularly approved, that they command the support of men in all parties, while the opposition of other men, in whatever party, is a distinct advantage. It was a very wise as well as worthy remark, "We love him for the enemies he has made." It is perhaps as severe a thing as could be said of General BUTLER that his hostility to a measure commends it strongly to intelligent and patriotic men as wise and desirable. The sneers of Corporal TANNER at any project of reform are tributes to its excellence. But Governor ABBETT's support of ballot reform shows its stronger hold both upon the country and his party. His approval, and that of the other newly elected Democratic Governor, CAMPBELL, of Ohio, make it impossible longer to say that the position of Governor HILL proves the party to be hostile to ballot reform. This is a matter of congratulation for the country, because it shows that the patriotic desire for honest government is not confined to any party.

THE QUESTION OF SAMOA.

THE treaty for the adjustment of the Samoan question has been published, and it confirms the statement made last summer, when it was negotiated, that, however excellent in certain ways, it provides for an entangling alliance of the United States with foreign powers. That our interest in the Samoan Islands is slight and unimportant is shown by the fact that although by a grant from the natives in 1878 we acquired a right to a harbor and a coaling station, we have never thought it worth while to avail ourselves of the grant and establish ourselves there, and when some months ago we were said to be in a dispute about our rights in Samoa, there was a general inquiry where is Samoa, and what rights have we there which can endanger our relations with Germany? Nevertheless, a case was admitted by our government and a settlement attempted under the late administration, which failed, and the first success of the HARRISON administration was the Berlin treaty, by which we agree with Germany and England to govern the Samoan Islands—apparently to prevent Germany from governing them alone. The treaty is well drawn for its purpose. It settles certain disputes about land. It saves, probably, an immense diplomatic correspondence over quarrels that were sure to arise between the three powers that have been claiming rights upon the islands. Perhaps it saves actual trouble with Germany; and the real Samoan question for us may be considered to be an alternative—an alliance with Germany, or a war about a very unimportant interest. But why have we put ourselves in such a position?

The treaty effects an alliance by which England, Germany, and the United States practically take possession of the government of Samoa, as Russia, Germany, and Austria took actual possession of Poland. In case of difference of opinion, we agree to acquiesce in the decision of the majority of the three powers. The German press admits that the treaty prevents German dominance, and complains of it because two-thirds of the foreigners in Samoa are Germans, and four-fifths of the trade, both foreign and domestic, are in German hands. The pretence of a native King and of Samoan independence is transparent and futile. The very first words of the treaty

are a declaration of the neutrality of the islands, and of the equal rights on them of the citizens or subjects of the three powers in residence, trade, and protection. These are declarations in regard to a country which can be made only by its government, which in Samoa is described as independent. But this independence is secured by a Chief-Justice to be named by the three powers, and removed by a majority of them. The situation is simple and intelligible, and, we repeat, the treaty may be the wisest practicable solution of the situation. But it has not been shown why, under the grant of a harbor and a coaling station, we did not proceed to take the necessary steps, and hold any power responsible that interfered, nor has it been shown why we could not protect American citizens in Samoa precisely as we protect them elsewhere, without an abandonment of our ancient policy of avoiding just such a foreign alliance as is made by the treaty.

By what right have Germany, England, and the United States practically taken possession of the Samoan Islands? Nobody supposes or says that the people of the islands, or their King, or his government, will be permitted to do anything that the three powers do not approve, or that any other power can enter into important relations with the islands without the consent of the three. The question recurs, therefore, whether any advantage gained by us compensates for a course so unprecedented in our diplomacy. The treaty probably will be ratified as an administration measure. Should it be rejected, the rejection would be an abandonment of further negotiation. Germany would resume its predominance in Samoa. The alleged German treatment of American citizens would lead to sharp questions. Sharp questions are the beginning of international trouble. Is not the treaty preferable? This is the argument. But it does not answer the questions how much more foreign alliance must we make to protect American trade and citizens elsewhere, and does the advantage of joining Germany and England in governing Samoa compensate for abandoning our traditional and wise policy of avoiding entangling foreign alliances?

AROUND THE WORLD IN SEVENTY-THREE DAYS.

PERHAPS it is the friendly desire of all esteemed contemporaries not to poach upon the manors of their neighbors which has confined the story of Miss Nelly Bly's trip around the world mainly to the columns of the *World*. The immediate contemporaries of that journal have not encroached upon its prerogative of an exclusive bulletin of a really interesting incident. On the 14th of November she left New York to go alone around the world in seventy-five days, and on the 25th of January she arrived in New York, having accomplished the feat in less than seventy-three days. The journey was made by the usual means, and all connections were made, and only ten days in all lost at three ports for steamer conveyance, the traveller arriving usually ahead of time.

The journey was planned with great intelligence, for the itinerary was made with such skill that every point was reached in time. The traveller has been well throughout her trip, and a woman has gone alone around the world without insult and with universal good-will. *Cui bono?* Well, the *World* has again illustrated its liberal enterprise, which is a good investment for it; the rapidity with which the journey can be made has been demonstrated, showing how well organized the means of communication in every part of the world now are, and, *pace* EDWARD FITZGERALD, a woman has made the fastest trip around the world.

It is, above all, a signal illustration of an art wholly modern—the art of advertisement. The motive of the expedition was none of the apparent motives. It was that of the expedition for the discovery of LIVINGSTONE, and of various other noted enterprises. It was to publish and benefit other and wholly unrelated enterprises. This result of the immense competition and individual resources in modern society has been treated by Mr. HOWELLS in his recent *Hazard of New Fortunes* in a character which is a creation, who carries into advertising the fervor of the artist—"into paint will I grind thee, my bride!" Advertising is a modern art which has had no more striking illustration than the trip of Miss Nelly Bly.

A RECENT DROLL INCIDENT.

WHEN the old Council of Revision was abolished in New York, if the Convention could have had a glimpse in the future of a bill involving an enormous expenditure and constitutional doubts, privately completed at the last moment, and without public knowledge or discussion of any kind sent up by railroad speed to Albany in the evening, introduced into the Legislature the next morning, and its immediate passage demanded without reference or deliberation, under penalty of denunciation of the Legislature as hostile to the honor and interests of the State—the Convention would doubtless have said, "Perhaps the Council of Revision had better wait a little."

There was something comical in the evident effort to blow such a measure through the Legislature by a kind of whirlwind. The World's Fair doubtless should be held in New York, and the law was probably a good one. But in order to have the Fair, it is not necessary to trample under foot every safeguard with which the traditions and practices of liberty have surrounded legislation. There is no time to spare if the Fair is to be held in 1892. But might it not better be postponed to 1893 than to pass laws of the highest importance without knowing what they are? Sundry excellent gentlemen, who are especially interested in the Fair provided it be held in New York, were said to think the bill all right. That was good; but they were not members of the Legislature, and they had no responsibility.

No ill was meant, of course, and no improper legislation, but certainly there was never a droller performance for fully grown and intelligent citizens of a republican state than the attempted "rushing" of the bill. Suppose the scheme had succeeded, and the Governor had signed the bill on the day on which it was introduced. A bill of the highest importance would have become law, and neither the Legislature nor the public would have known what it was. New York might have got her whistle, but upon such terms she would have paid pretty dearly for it.

A NEW BROOM.

IT is often true metaphorically that a man achieves great distinction by shovelling away a great deal of dirt. Great reforms, for instance, consist in the removal of heaps of the rubbish of abuse. But it is not often that the opportunity of a most desirable reputation is opened to a man by simply cleaning the streets; doing, in fact, upon a great scale what little boys with brooms do for a penny at muddy street crossings. This, however, is the opportunity offered to Mr. LOOMIS, who has just been appointed Street Commissioner in New York. Should he clean the streets and keep them clean, he will be covered with the hearty benedictions of a long-suffering people.

He has been already reminded by the vigilant press that lasting reforms, that is to say, streets permanently clean, depend very much upon the character of the persons whom he calls in to assist him, and if he will insist upon appointing only fit agents his fame will be justly great. The vigilant press doubtless remembers the exhortation of the bystanders to the small boy in the fight, to "go in and win." The real question is not of the Commissioner's desire or purpose. It is universally agreed that he has the necessary qualities for the efficient discharge of his duties. But is he a free agent? Can any officer in his position be a free agent?

If he resolutely devotes himself to his work, solely intent upon doing it as it ought to be done and as he can do it, he must, first of all, refuse to appoint assistants because politicians want them appointed, and select them solely because they are the best men. How far does a vigilant press think that a Street Commissioner appointed by Tammany Hall would advance upon that road without challenge and arrest? If Mr. LOOMIS should justify the high praise and expectation with which he enters upon his duties, it will very probably be done by demonstrating that the conditions imposed upon a Commissioner, and which he cannot help, make clean streets economically impossible.

WOMEN PHYSICIANS FOR INSANE WOMEN.

THE proposition which is pressed with great vigor by the Woman's Educational and Industrial Union of Buffalo, that in every hospital and asylum under State control in this State there should be at least one educated woman physician, is so essentially reasonable and so justified by experience that it is impossible to see upon what ground it could be opposed. Legislative action upon the subject has been taken in Massachusetts, Pennsylvania, and Ohio. In ten other States—Maine, Michigan, Minnesota, Indiana, Illinois, Iowa, Nebraska, New York, California, and West Virginia—women physicians have been voluntarily appointed by superintendents or trustees. There are now more than twenty such physicians serving in State institutions.

New York legally sanctions the education and practice of women physicians. Is there any good reason why she should not provide by law that every unfortunate insane woman under the care of the State shall have the services of an expert of her own sex if she desires it? Surely the question carries its own answer. It would be thought a very hard dispensation that insane men should not be attended by men physicians if they so desired. The reasons in the case of both sexes are obvious and familiar. The only regret and wonder are that a provision so humane and natural and consoling for these unfortunate wards of the State has not yet been made law.

AN OBVIOUS QUESTION.

UNTIL recently it was the universal practice, upon a change of party administration, to change all postmasters and other public employés, substituting partisans of the new administration for partisans of the old. For reasons which we have often stated this seems to us an extravagant, demoralizing, and dangerous practice, and public opinion is unquestionably rapidly reaching the same conclusion. But public officers who honestly think otherwise, and hold that under a Republican administration postmasters who are Democrats ought to be replaced by those who are Republicans, should certainly have the courage of their opinions. This is the truth which the President, when he was a Senator, frankly urged upon the Democratic administration. He said to President CLEVELAND in effect, "If you wish to remove a postmaster because he is a Republican, do so frankly; but don't say it is because he is a poor postmaster."

Yet what has the President's own Post-office Department been doing? Instead of saying to Mr. BAILEY, the postmaster at Utica, "You are a good postmaster but a Democrat, and therefore you must go," as, very possibly, the case being reversed, Mr. BAILEY might say to the Postmaster-General, it has sent an inspector, a man who was dismissed from the department by the Republican Postmaster-General HOWE, on the demand of the Republican Attorney-General BREWSTER, in connection with the Star Route cases, and upon his report, Mr. BAILEY, who knew nothing of the investigation aiming at his removal, was summoned to Washington, confronted with the kind of scandal which can be always collected from designing vagabonds in and around every public office, and was told that upon such grounds, although he was not allowed to see any of the papers, nor to know the names of the signers of affidavits, this inspector recommended him for removal for gross neglect of duty.

We understand that by common consent the postal service in Utica was never more satisfactory or in higher esteem than it is now. But Mr. BAILEY, although a Democrat and an editor, has fought resolutely "the ring" that in Utica controls both parties. He opposed the Democratic candidate for Mayor last spring because he thought him unfit, and in the autumn he aided in the defeat of the Republican candidate for District Attorney, who was sustained by the ring, and was the only Republican candidate who was defeated. This defeated candidate was the close comrade of the inspector during the investigation in Utica, and the pretence that the postmaster's removal is sought because of inefficiency and neglect is refuted by public feeling in regard to the office. Why does not the department recall the substance of Senator HARRISON's remark to President CLEVELAND, and holding that the postmaster at Utica ought to be a Republican, remove Mr. BAILEY openly because he is a Democrat? That is what Mr. PHILIP HONE did when he became Naval Officer in New York fifty years ago. He was a Whig gentleman of the old school, who regretted the painful duty of discharging Democrats, but did not pretend that it was for any other reason, although he deeply sympathized with the victims, like the walrus with the oyster.

PERSONAL.

THE oldest flag-officer on the active list of the British navy is Admiral Sir PROVO WILLIAM PARRY WALLIS, whose age is nearly ninety-nine. He is also probably the oldest naval officer now in the service of any country. Although he did not actually go to sea till 1804, according to the custom of those times his name was borne upon the books of various war ships while he was still in the nursery, and he has therefore belonged to the navy for ninety-four years. Young WALLIS was a second lieutenant on the *Shannon* when she fought and captured the *Chesapeake*, off Boston, in 1813, and as the captain was wounded, and the first lieutenant killed, he took charge of both ships, and carried them into Halifax.

—HENRY M. STANLEY established a reputation as a disciplinarian when a school-boy at St. Asaph, England. He was then known as JOHN ROWLANDS—the name he kept till he was adopted by a gentleman and brought to this country. The master of the Union school of St. Asaph sometimes put young ROWLANDS in charge of the other boys when he wished to be absent, and the youthful pedagogue always preserved the best of order, soundly thrashing any lad who dared to dispute his authority. As a scholar, ROWLANDS ranked high in arithmetic and geography, his fondness for the latter study being especially marked.

—Rev. Dr. ROBERT PHELPS, Master of Sidney Sussex College, of Cambridge, England, since 1843, and senior of the heads of houses in the university, has just died, at the age of eighty-one.

—Sir WILLIAM GULL, M.D., to whose medical skill the recovery of the Prince of Wales from typhoid fever in 1871 was largely attributed, has recently died in London. He was made a Baronet by the grateful Queen in 1872, and became the best-known physician in England. Many medical and other learned societies counted him a member, and he was a leading authority on brain troubles.

—Over fifty-five years ago PRUDENCE CRANDALL was violently persecuted for starting a boarding-school for colored girls at Canterbury, Connecticut, but not till the State Legislature had prohibited her school, and she had been tried, convicted, and imprisoned for breaking the law, did she give up her project. Having married Rev. CALVIN PHILLEO, a Baptist clergyman, she moved to Kansas, where she has just died of influenza, at the ripe age of eighty-seven years.

—Sir JOHN MACDONALD, the Canadian Premier, is seventy-five years old, and yet possesses the energy and capacity for work of a much younger man. At the age of five years he was brought to Canada from his native Glasgow, and half a century ago had won an enviable reputation as a lawyer. In personal appearance the Premier is rather tall and slender, and the resemblance of his face to that of DISRAELI has been observed by many. His astuteness as a politician has kept him from bigotry in religion, and it is said that he attends services at the churches of the different denominations in Ottawa with delightful impartiality.

—A "Lucy Webb Hayes Temple Association" has been formed at Washington, by SUSAN B. ANTHONY, CLARA BARTON, and other prominent women, to erect a building in memory of Mrs. HAYES, which will be known as the Lucy Webb Hayes Temple. A drinking fountain and a statue of Mrs. HAYES will adorn the front of the structure, while busts and portraits of other well-known women will be placed inside. Five thousand charter members, each with a subscription of five dollars, are wanted to give the project a good start.

—The richest man in Alabama is H. F. DE BORDELEBEN, a Birmingham iron manufacturer, who is supposed to be worth about $8,000,000.

—More than three thousand congratulatory letters and telegrams poured in upon Mr. GLADSTONE on his eightieth birthday, which recently occurred.

—Striking testimony to the power for good exerted by *Ben-Hur* is the proposal to make use of the story in the evangelistic work of foreign missions. General LEW WALLACE has been strongly urged of late to assist in the missionary enterprise of publishing an Arabic translation of the story in Syria.

—SIDNEY DICKINSON, a graduate of Amherst College and of several newspaper sanctums in New England, and more recently an entertaining lecturer on art, has fallen from grace, and become an insurance agent in Australia.

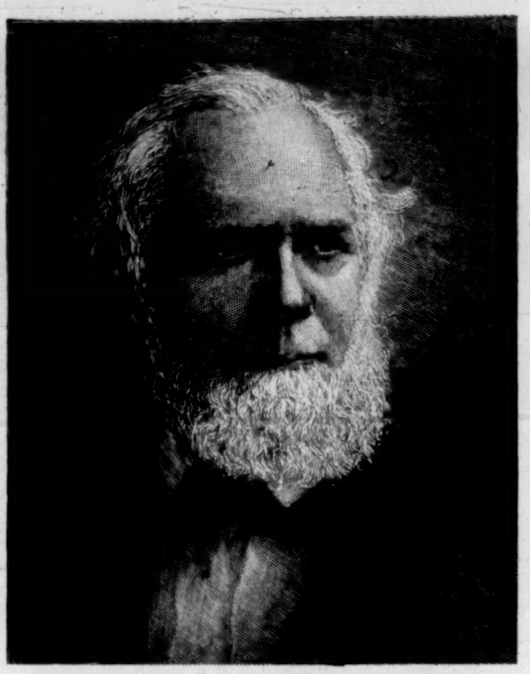
—The remains of Millionaire FLOOD and his family are to rest in a magnificent mausoleum in Lake View Cemetery, at San Francisco. It is to cost at least $100,000.

—Since the giving way of his health and mental powers about a year ago, JOHN RUSKIN has been confined to Brentwood, his residence in Cumberland, England. Here he is surrounded by the treasures of art and other valuables which he has gathered during the past twelve years at an expense of over $500,000. The collection includes many gems from English and foreign artists, thirteen hundred missals, and a number of precious stones.

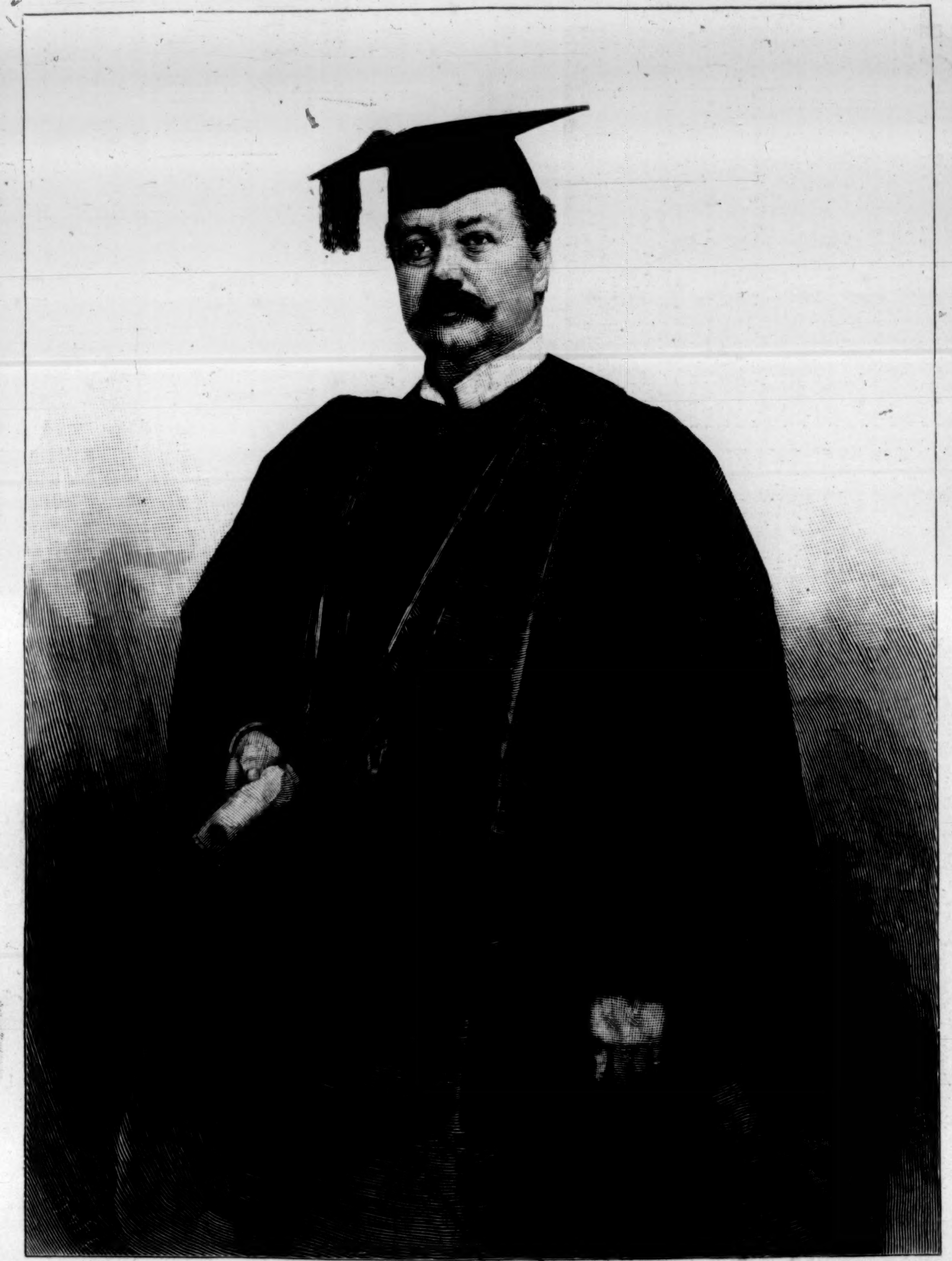
—Professor E. J. PHELPS, ex-Minister to England, is again lecturing before the Yale law students. He seems to have grown older in appearance, but has lost none of his rare ability as a teacher.

—The youngest man in the House, at Washington, is CHARLES H. TURNER, the "ice-man," recently elected from the Sixth District in this city. He is twenty-eight years old, and has already made a speech on New York's claims to the World's Fair.

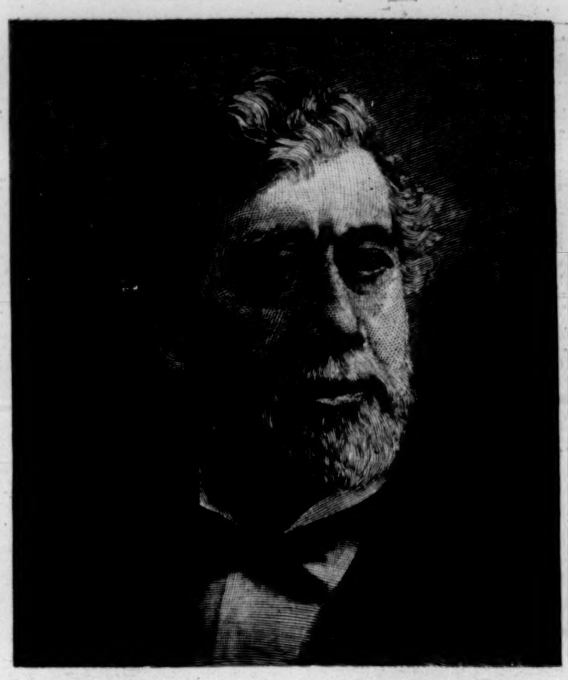
—WILLIAM TAYLOR ADAMS (Oliver Optic) served an apprenticeship as a hotel-keeper when a young man, but soon left this for the more congenial work of teaching and writing. Up to 1865 he was master of one of the Boston schools, and since then has given up his time to writing. Mr. ADAMS is a practical yachtsman and a skilful worker in wood and iron, a well-arranged workshop in his delightful home at Dorchester, Massachusetts, enabling him, as the spirit moves, to indulge in his taste for mechanical pursuits.



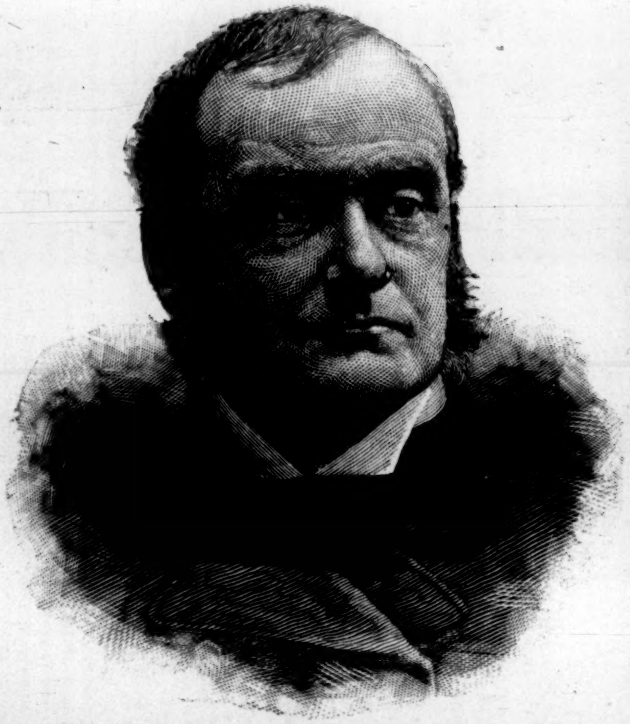
HENRY DRISLER, JAY PROFESSOR OF GREEK, AND LATE ACTING PRESIDENT.



SETH LOW, PRESIDENT



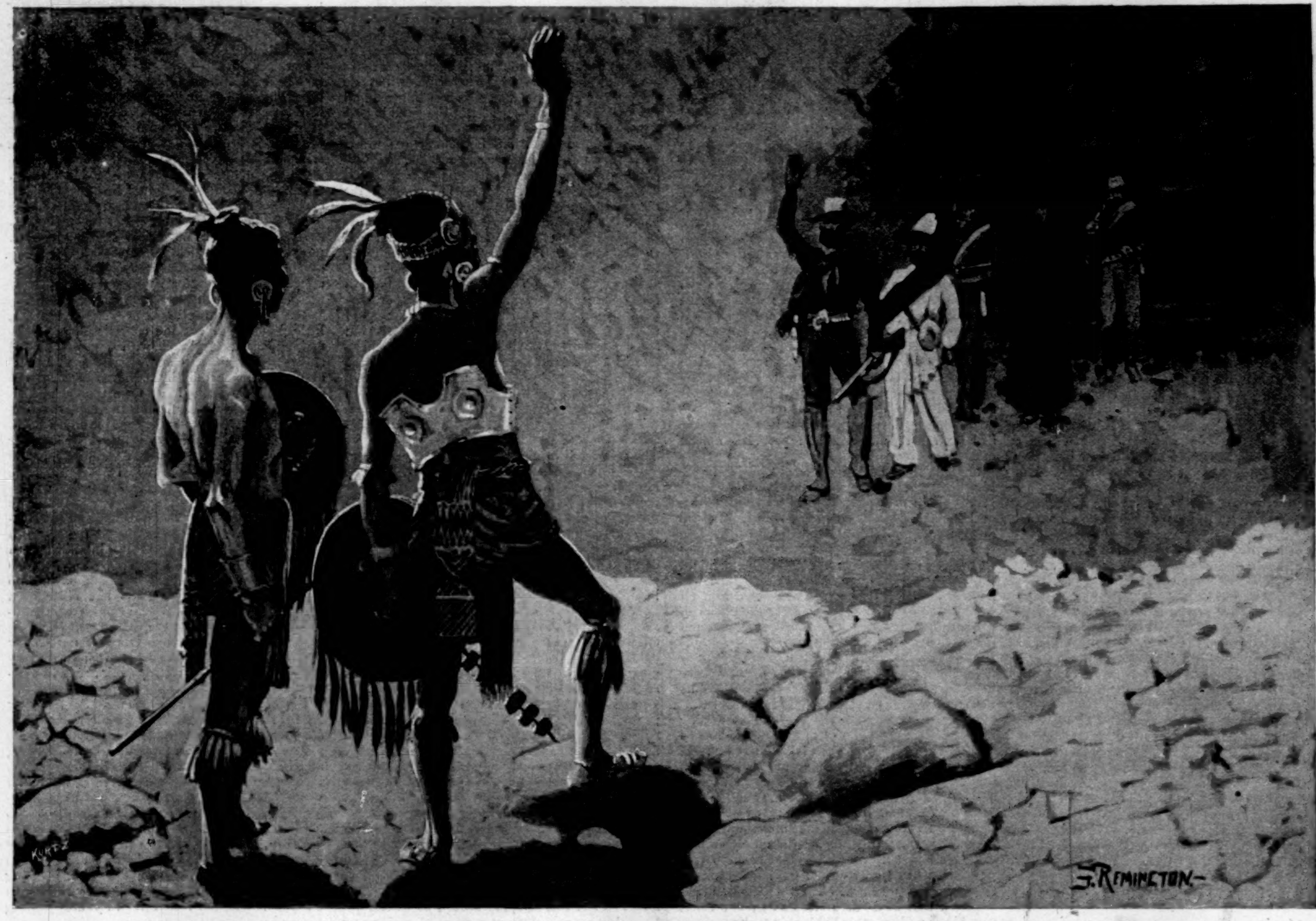
HON. HAMILTON FISH, CHAIRMAN OF THE BOARD OF TRUSTEES



THE RT. REV. HENRY C. POTTER, D.D., BISHOP OF NEW YORK.

CHARLES F. CHANDLER, PROFESSOR OF CHEMISTRY.

THE NEW PRESIDENT OF COLUMBIA COLLEGE AND SOME OF HIS ASSOCIATES.—FROM PHOTOGRAPHS.—[SEE PAGE 111.]



"BOTH MEN WERE ACCOUTRED IN THE FASHION WHICH THE PICTURED RECORDS SHOW WAS USUAL WITH THE AZTEC WARRIORS."

THE AZTEC TREASURE-HOUSE.*

BY THOMAS A. JANVIER.

XV.—THE TEMPLE IN THE CLOUDS.

DOUBTLESS the violent strain to which the chain had been subjected by El Sabio's kicking and plunging had loosened the fastenings, centuries old, which held it to the rock; for the chain had not broken, but had come away entire. I sank down on the rock as weak with terror as the poor ass had been; and like him I drank greedily of water, and panted for a while, and at last found my courage coming back to me.

Yet my case was a happy one compared with that of Fray Antonio. Howsoever narrow my escape had been, the fact remained that I had come out from my encounter with death safe and unharmed; but on Fray Antonio's shoulder we could but dread that death already had laid his hand. And that he knew how close to him death was standing we could see by a certain elate and confident air of courage in his bearing, and by the wonderful tenderness and sweetness of his smile. Truly, never did I know a man so ready at all times as this man was to lay down the life that God had given him; holding it but as a trust that might at any moment be called back to the source whence it came. Yet because it was a trust, meant to be put to useful purposes, Fray Antonio valued his life and cared for it. And at this time it was he himself who devised a plan by which it might be saved.

The ropes which were fastened to the chain, being held stoutly on the one side by Fray Antonio and on the other by Young, fortunately had broken as the great weight of the chain suddenly had come upon them; and had broken so close to the knots which held them that nearly the whole of their length remained. The plan that the monk now devised for coming across to us—and a bold heart was required even to think of this daring enterprise—was that with the two ropes fastened about his body at one end, and held by all of us at the other, he should swing down into the chasm and far under the promontory of rock on which we stood, and then that we should haul him up to us. The great difficulty in the way of executing this plan was in getting the line across between us; its great danger lay in the probability—notwithstanding the depth of the recess beneath us—that he would be dashed against the rocks with such force as to kill him outright.

But Young, who usually was ready for any emergency that might arise, roused out a ball of twine that was a part of our stores, and one end of this he made fast to a fragment of rock, and by a strong heave of it landed it safe on the other side; whereafter the rigging of the double rope across was an easy matter.

Very carefully, testing the knots as he made them, Fray Antonio fastened the double line about his body, beneath his shoulders, and so stood ready on the edge of the chasm; while we four stood holding the line, with all our muscles braced for the strain that would come upon it as he swung downward. For a moment he paused, with his face turned upward while his lips moved. Then he waved his hand, and smiled as he called across to us: "It is as God wills!"—and so dropped away from the ledge, and like a flash went down beyond our range of sight.

We felt the jar on the ropes as his body struck against the face of the cliff far below us, and the reflex action as he swung out again; and thereafter the slower motion of the ropes as he swayed back and forth dangling over that black and awful chasm. And as the ropes settled into steadiness we drew him up toward us; yet dreaded, because of the dull weight of it, and because no assuring cry came up to us, that what we lifted was a corpse.

And, in truth, as we raised the body of Fray Antonio over the edge of the cliff it seemed as though this dread were realized. For a great bloody gash was upon his temple, and his limbs were limp and lifeless, and his face was deathly pale. At sight of which there came into my heart a bursting pain, as though some one had stabbed me there; and there were tears in Young's eyes; and Rayburn gave vent to his sorrow in a great curse that was half a groan. As for Pablo, whom no danger could daunt and who would bear without flinching any hurt of his own, this dreadful sight so moved him that he fainted dead away.

Yet even in the moment that such deep sorrow seemed to be settling down upon us, Fray Antonio slightly moved his lips, and there came forth from them a low faint sigh—whereupon Young jumped up with a shout and relieved his mind by administering to Pablo a hearty kick, which he accompanied with the remark: "You infernal fool of a Greaser Indian, what do you mean by fainting? He ain't dead at all!"

As tenderly as I could for the trembling of my hands, I washed away the blood from about the cut and bathed Fray Antonio's pale face; while Rayburn gave him a sup of whiskey from his flask. And then, presently, his eyes opened and energy came into his body once more. In a little while he was on his feet again, and as well as ever; save for the smarting of his cut, and in his head a dizziness and a dull throbbing pain. Just what had happened, he could not tell. He knew that he had struck against the rock with his feet, as he had planned to do; but he must have swung around, when the force of the impact had been thus partly broken, and struck his head against some sharp projection and so have been cut and stunned. But it made no great difference how his hurt had come to him, since it had not proved to be a deadly one; therefore we forbore to question him further concerning it, and sought by quiet talk that led softly into silence to take his thoughts away from the peril that he had been in. Indeed, we all were glad to rest quietly where we were for the night; for our bodies were tired and our nerves were racked and strained.

We should have been most thankful for a big potful of coffee, but there was no wood with which we could make a fire. The best that we could do, and there was not much comfort in it, was to chew some coffee grains after we had made a supper upon one of our few remaining tins of meat; and then we rolled ourselves in our blankets and lay down upon the bare rock. And I must say that if anybody had asked me at that moment if archæology was a study that paid for the trouble that it cost, I should have said most unhesitatingly that it was not.

Even sleep, which I greatly needed and for which I earnestly longed, did not come to me easily; for each time that I seemed to be dropping gently away into unconsciousness I would be roused by the feeling that I was holding fast to the chain again, and so was sliding down the long curve among the shadows, with the great walls of the cañon towering infinitely above me, and with the black depth below. And in my sleep I made again the dreadful passage, and heard the clinking of the chain as it parted, and the rattle of it as it struck the rocks, and felt the grasp of Rayburn as he caught me just as the bar was twitched out of my hands—and so woke to find Young shaking me, and to hear him say: "There's no earthly sense in your kicking around that way, Professor; and, anyhow, it's time to get up. It's just a wonder how these Mexican mornings put life into a man. Why, there's a freshness in the air that's going to waste in this cañon that's fit to make a coffin stand right up on end and dance a jig!"

Even Fray Antonio, but for the soreness of his hurt, felt strong and well; and we ate another tin of meat—which was much less than we wanted to eat—and so started along the path hewn out of the side of the cliff; and what with the brightness and joyfulness of the morning, we certainly were in much higher spirits than was at all reasonable in the case of men who had had such close companionship with death so short a time before, and who still stood a very fair chance of dying dismally of starvation. The knowledge that, by the falling of the chain, our retreat had been again cut off did not at all trouble us. Even could we have crossed the cañon, and so have retraced our steps, we could have gone no further than the valley of the lake; and we could as well die here as there. And we were stayed by the reasonable conviction that the path which we were travelling upon certainly would lead us out of the mountains at last—even if it did not lead us to the hidden city that we sought.

For five or six miles we doubled on our course of the day before, going back along the cañon and seeing the path that we had followed a little below us on the other side; then, by a very easy grade, our course began to ascend, and went on rising until the other path was so far below us that it ceased to be distinguishable. Thus we came to within a few hundred feet of the top of the cliffs, when a sudden turn to the left carried us into a narrow cleft in the rock. Here the path was very sharply inclined upward for a little way; and for the remainder of the distance to the top we ascended a long series of rudely cut steps, so steep that our legs fairly cracked under us as we neared the end of them.

But we forgot our weariness as we came out upon the summit at last and a great view of clouds and mountain-peaks burst upon us; the like of which I never have seen approached save by the view out over the Gunnison country from the crest of the Marshall Pass. But here we saw all around us what there is seen only in one direction; for we were on a vastly high, square crest—very like that called the Gigante, which the traveller by the Mexican Central Railroad sees to the left as he nears Silao—and clouds and mountain-peaks rose up about us on every side.

But we did not long contemplate this heroic landscape; for a cloud, which almost enveloped us as we finished our ascent of the stair, was swept still further away by the brisk wind then blowing—so that suddenly a vast building loomed largely through the flying vapor, and in a moment was clear and distinct before our eyes. To find upon this bare mountain-top, among cloud soli-

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tudes so profound as these, such overpowering evidence of the labor and strength of man, sent thrilling through our breasts a wonder that was akin to awe. It seemed unreal, impossible, that in such a place such work could be accomplished; and the very tangible reality of it made it seem to me one of those prodigies of man's creation which old stories tell of as having been wrought by a league with the devil and at the cost of a human soul.

Had there been any signs at all of human life about this solemn and majestic building, or upon the mountain-top whereon it stood, the chilling hold that it took upon our imaginations would have been less strong. What wrought upon us was the deadly silence, and the absolute stillness of everything save the drifting clouds. It seemed to us as though we had come out from the living world and our own time into a dead region belonging to a long dead past—and I remembered with a shudder that we had entered this region through that gloomy cavern, where hundreds of the ancient dead were clustered in silent worship about the great silent idol carved in everlasting stone. It seemed as though some evil spell hung over us, that doomed us forever to wander in wild solitudes—which were the more appalling because constantly uprose before us tangible evidence of the strong current of eager human life that had pulsed through them in former times. Young but put into his own rough language the thought that was in all our hearts when he declared, with a great oath, that for the sake of getting safe out of this lonely hole he'd contract to fight Indians three days in every week for the rest of his life; and be glad to do it for the comfort of having somebody around who was alive.

XVI.—AT THE BARRED PASS.

The whole top of the mountain, near a mile square, had been so levelled by nature that little remained to be done for its further smoothing by the hand of man. But the amount of work that had gone into the mere preparation for the building of the great temple was almost incredible. In the centre of the plateau a pyramidal mass of rock near a thousand feet square, of a piece with the mountain itself, had been so shaped and hewn that it rose in three great terraces to the square apex on which the temple stood. These terraces slanted upward, surrounding the pyramid by a continuously ascending way that had its beginning and its ending in the centre of the eastern front—so that, allowing for the diminishing size of the pyramid, the distance by this way from the bottom to the top of it was more than a mile and a half.

"It just took a slow-going, lazy heathen Greaser to think out a thing like this," Young observed as we went up the path. "Now, if the Congregationalists that I was brought up amongst had put a church on a place like this—and they wouldn't have been likely to be fools enough to do anything of the sort—they'd 'a' had a set of steps running smack from the bottom to the top, and folks would have got up in no time. It's just the Greaser fashion all over to spend a hundred years or so in making a path five miles long around a hill about as high as the Boston State House, so's they can get up it easy and save their wind. But I wish they'd put in drinking fountains along the road. I'm as thirsty as a salt cod—and there's so precious little water left in the keg that I'm afraid to begin at it for fear of sucking it all up."

"Drinking fountains?" Rayburn, who was a little in advance, called back to us. "Well, so they did. Come along and drink as much as you want to."

"Cut that, Rayburn," Young answered. "I'm too dead in earnest about my being thirsty to stand any foolin'."

"I'm not fooling"—we had caught up with him by this time—"look for yourself."

To which Young's only reply was to spring forward eagerly and drink a long deep draught from a stone basin beside the path into which trickled a tiny stream from above. Finding water in this unlikely place was as great a surprise as it was a joy to us; for we all longed for it, yet dared not drink freely because our supply was nearly gone. It was touching to hear the long sigh of happiness that El Sabio gave when at last he lifted his dripping snout out of the basin; and then to see the look that he gave Pablo, as though to thank him for so blessedly plentiful a drink. In truth, the Wise One had not tasted a drop of water for nearly twenty-four hours, not since his perilous passage of the cañon, and his throat, and his poor little inside generally, must have been very dry.

When we came out on the top of the pyramid at last, which at that moment was wrapped in clouds almost as dense as London fog, we perceived the ingenious plan that had been adopted in order to secure water plentifully on this mountain-top. By careful scoring of the rock with many little channels, all leading to a cistern that seemed to be of great dimensions, the warm vapor of the clouds as it condensed into water on touching the chill stone surface was captured and safely stored away. And from the overflow of the cistern the fountain below was fed.

But we did not stop to examine very carefully into this matter, so eager were we to press on to the temple close before us. This stood upon a terraced platform, cut from the living rock, and was a perfectly plain structure—with walls slightly receding inward as they rose, and wholly destitute of ornamentation. For its majestic effect it depended upon its great size and upon its admirable proportions; and being built of the dark rock of which the mountain was formed, and having about it much of the sombre feeling that characterizes Egyptian architecture, it had an air of great solemnity and gloom.

In silence we ascended the short flight of steps that led to the broad, doorless entrance—the only opening through the massive walls—and so came into the vast shadowy hall that these great walls enclosed. From front to back of this hall extended many rows of stone pillars—like the single row found in the great chamber among the ruins of Mitla—and by these were upheld the huge slabs of stone of which the roof was made. Far away from where we stood, down at the end of a long vista of pillars, was a stone altar on which was carved in stone a colossal figure of the god Chac-Mool. Looking back through the open entrance, I saw a break in the mountain-peaks to the eastward, and so perceived that the first rays of the rising sun must needs enter here and strike full upon the disk that was poised in the figure's hands. As Pablo caught sight of the great idol recumbent there, a momentary shudder went through him, and he made certain motions with his hand before his eyes that were strange to me.

As we drew near to the altar we found that in front of it was a sacrificial stone, still darkly stained where blood had flowed upon it; and beneath the stone neck-yoke still resting there was a withered remnant of human vertebræ. There was something very ghastly in finding—preserved by the very stone that had held him down while life was let out of him—this mere scrap of the last human victim who had perished here. As in the desolate valley, so also on this desolate mountain-top, the only proof that human life ever had been here was found in proof of human death.

Save that our curiosity was gratified, and the blessing of the water which we had found, our ascent of the great pyramid and our examination of the temple bore no fruit. Young, who still seemed to think that tilting up and disclosing secret passages was an attribute of all statues of the god Chac-Mool, was here again convinced that his generalization from a single case was not a sound one. In a serious way—that in itself would have been laughable but for the gloom of our surroundings—he climbed upon the altar and sat first on the head of the god, and then on his feet, and even tried the effect of seating himself upon the stone disk that the god upheld above his navel. But through all of these experiments the stone figure remained solidly immovable.

"I guess there was only one of that tipping kind," Young said at last, "and he sort of flocked by himself. Let's get out of here, anyway. If this ever was the Aztec bank that we're looking for, there must have been a prehistoric run on it that cleaned it out. They must have done that sort of thing in old times—eh, Professor? But it don't make much difference to us now what they did or what they didn't; and we'd better fill up with water and get out—that is if there is any way of getting out except along the way we came. There's no good in going back that way. It would be better to settle down here and starve comfortably without wearing out shoe-leather doing it. But I don't mean to do that until I've had a look all around the top of this god-forsaken mountain, and made sure that there's only one way down."

My own thoughts had been dwelling on the possibility that Young's words expressed; for at this definite point to which we had come, the path that we had come by very reasonably might end—so leaving us in this lonely region among the clouds to die slowly for lack of food. And there was a certain fitness in our having made our way so far among the dead only ourselves to die, that added sombre fancies to our environment of sombre realities. Yet there was a heartiness in Young's resolutely expressed determination to search for a way out of our difficulties before at all yielding to them that insensibly cheered me. His words had a plucky ring to them; and bravery is as catching as is fear.

Our empty water-kegs were at the bottom of the pyramid, and when we reached the fountain on our downward way we waited there while Pablo went on with El Sabio and fetched them up to us. There was at least solid comfort in knowing, as we went on downward with the kegs all filled, that, whatever other death might come to us, at least we could not die of thirst. At the bottom of the pyramid we left Fray Antonio and Pablo, with El Sabio and the packs, and the three of us set out to explore the three sides of the mountain-top that were unknown to us in search of a downward path. A heavy mass of clouds had drifted over the mountain again, so thick that at a rod away all was white mist around us; and the light was growing faint, for the day had come nearly to an end. Indeed, had we been upon the lower levels of the earth, night would have been already upon us.

Making my way along the edge of the precipice, where the plateau broke sheer off, was ticklish work; and half humorous, half melancholy thoughts went through my mind touching the absurdity of an ex-professor of Topical Linguistics in the University of Michigan being thus employed in path-hunting upon a lonely mountain-top in Mexico. Truly, adversity brings us strange bedfellows; but far stranger are the straits into which a man comes who takes up with the study of archæology at first-hand. But my path-hunting was without result, for nowhere along the edge of the plateau was there a break fit for the descent of any creature save such as had wings. At the end of near an hour, the clouds once more lifted; and then I saw Rayburn coming toward me—but with a serious look upon his face that told that he also had been unsuccessful in his search.

"It has rather a bad look, Professor," he said briefly, when I had told him that along all the face of the mountain that I had examined the rock went down sheer. He filled his pipe and lighted it, and we walked back to the base of the pyramid in silence while he smoked. Young had not returned; but presently we heard a shout that had so hopeful a sound in it as to start us both to our feet and forth to meet him.

"Have you found a way down?" Rayburn called as he came nearer to us.

"You bet I have!" he called back; "and, what's more, I've seen somethin' to eat."

"*Seen* something," Rayburn answered, as he joined us. "Why the dickens didn't you *get* it?"

"Well, because it was better'n a mile away from me. It looked like a mountain-sheep, as well as I could make out; but there it was, for sure—and thinkin' how good that critter will taste roasted has given me a regular twisting pain all through my empty inside! But the point is that down on that side of the mountain there's game—I saw birds, too, but I couldn't make out what they were. And, somehow, it looks different down there. It don't look like these darned dead places we've been prowlin' through for more'n a 'coon's age. It looks as if God remembered it, and it was *alive!* Why, the very smell that came up had somethin' good about it; and there was a different taste to the air. I tell you, Rayburn, I didn't know what a lonely an' mis'rable an' lost chump sort of a way I was in until I looked over there into that place where the whole business isn't run by dead folks. And what's more, Professor, that's the trail for us; for, right where it starts down, there's the King's symbol and the arrow, all regular, blazed on the rock."

"Is the trail good enough to make a start on now?" Rayburn asked. "We won't have more than half an hour more light; but I'd give a lot to get off this mountain before dark—and every foot down that we go we'll be that much warmer. We'd stand a pretty fair chance of freezing up here to-night without any fire."

"The trail's all right for a good half-mile, anyway," Young answered, "and I guess it's good all the way. It's pretty much the same as the one we come up by—and that's good enough, where it don't jump cañons, to go along in the dark. But we must rustle if we mean to do much by daylight."

We were back at the pyramid by this time, and we found Fray Antonio very willing to be off with us that we might try to get well down the mountain before night set in—for at that great elevation the quick beating of his heart added very sensibly to the throbbing pain of his wound. Therefore we lost no time in getting our packs upon our backs, and upon the back of El Sabio, and briskly started downward; and the keen cold that came into the air, as the sun sunk away behind the mountain-peaks at last, warned us that it was safer to take the risks of a descent almost in darkness than to stay for the night upon that bleak mountain-top without a fire.

In twenty minutes we perceived a comforting change in the temperature; and at the end of an hour—during the last half of which we walked slowly and cautiously through the fast-thickening darkness—there was enough warmth in the air about us to make camping for the night endurable. But we still were at a great elevation, and the thin air was bitingly keen—and all the more so because of the scant meal that we had to comfort us and to put strength into us before we wrapped ourselves in our blankets for sleep.

"What's a mis'rable two pounds of corned-beef among five of us," Young exclaimed in a tone of angry contempt, "when every man in the lot is hungry enough to eat the whole of it, and the tin box it comes in, and then go hunting for a square meal? And to think of that sheep I saw! I say, Rayburn, did you ever eat a roast fore shoulder of mutton, with onions and potatoes baked under it, and a thick gra—"

"If you don't hold your jaw about things like that," Rayburn struck in, "I'll murder you!"—and there was such fierceness in his voice, and he truly was such a savage fellow when his anger was up, that Young was half frightened by his outburst, and so was silent. I must say that I wish that he had altogether held his tongue; for, somehow, the smell of mutton and onions and potatoes, all cooking together, was so strong in my nostrils, and this smell so set to yearning my very hollow inside, that it was a long while before I could sleep at all; and when I did sleep, it was to be pursued by dreams of painful hungriness which were but too surely founded in painful fact. Certainly, it was very indiscreet in Young, to say the least of it, to make a remark of that nature at that untoward time.

However, that was the last day that we suffered for want of food. I was awakened in the very early morning by the sound of a rifle-shot; and sprang to my feet, brandishing my revolver, with a confused belief in my sleepy mind that we were attacked by Indians again—and, truly, my first feeling was one of pleasure at the thought of meeting, even in deadly combat, with men who were alive.

"It's all right, Professor," Rayburn said. "We're not fighting anybody. But I've killed a mountain-sheep, and if we only can get him we'll have a solid breakfast, even if we have to eat him raw. He was over on that point of rock, and he's tumbled down clear into the valley; and the sooner we get down there and hunt for him the better."

In the bright light of the early morning we could see below us a glad little valley, in which trees and grass grew, and in the centre of which was a tiny lake. But what gave us most joy was seeing birds flying over the face of the water, and half a dozen mountain-sheep scampering away at the sound of Rayburn's shot. Truly, the sight of these live creatures was the most cheery that ever came to my eyes; and as I beheld them, and realized that at last we had emerged from the dreary, death-stricken region in which as it seemed to me we had spent years, a great wave of happiness rolled in upon and filled my heart. As it was with me, so was it with the others; who gave sighs of gladness as thus they found themselves no longer wanderers among the chill shades of ancient death, but once more moving in the warm living world.

The path, cut out along the mountain-side, went downward by a sharper grade than that by which we had ascended; and we descended it joyfully at a swinging trot, with a new life in us that made us break out into lively talk and laughter that set the echoes to ringing. And presently, in a very jerky fashion because of his rapid motion, Pablo piped away on his mouth-organ with "Yankee Doodle"—and this was the first time that he had had the heart to play upon his beloved "instrumentito" since our passage of the lake beneath which lay the city of the dead.

In an hour we came fairly down into that bright and lovely valley, where was the sweet sound of birds calling to each other and the glad sight of these live creatures flying through the air. As for the sheep that Rayburn had killed, he was knocked pretty well into a jelly by his half-mile or so of tumble down the mountain-side. But we were not disposed to be over-fastidious, and we quickly had his ribs roasting over a brisk fire—that yet was not so brisk as was our hunger, for we began to eat before the meat was much more than warmed through. When our ravening appetite was appeased a little, Young got out the coffee-pot and set to making coffee. And then, with meat well cooked and coffee in abundance, we made such a meal as can be made only by half-starved men who suddenly have come forth from the dark shadows of threatening death into the glad sunshine of safety. Of what further perils might be in store for us, we neither cared nor thought. Our one strong feeling was the purely animal joy bred of deliverance from gloom and danger, and the packing of our bellies with hearty food.

When, at last, our huge meal was ended, we settled back upon our blankets and fell to smoking. Presently Rayburn gave a prodigious yawn and laid aside his pipe. "I think I'll take a nap," he said. I saw that Young already was nodding and that Pablo had sunk down into slumber—while El Sabio, who had come even closer to starving than we had come, most thankfully rummaged among the rich grass. My eyes were heavy, and I stretched myself out on my blankets, with the warm sunshine comforting my stiffened body, and presently sunk softly into delicious sleep.

I partly woke a few moments later, as Fray Antonio rose, thinking that we all were lost in slumber, and walked a little apart from us. He alone had made a meal in reasonable moderation; and I saw now that he had gone aside to pray. For a moment, the thought stirred in me that I would join him in what I knew was his thanksgiving for our deliverance. But sleep had too strong a hold upon me, and my body slowly fell back upon the blankets and my eyes slowly closed—carrying into my slumber the sight on which they last had rested: the monk kneeling upon the grass beside a great gray rock, with clasped hands and face turned upward, pouring his soul out in grateful prayer.

It was well on in the afternoon when we all woke again; and Young's first remark was that it must be about supper-time. Rayburn fell in with this notion promptly, and so did I myself—rather to my astonishment, for it seemed unreasonable that after such a stuffing I should desire to eat so soon again. But we did make a supper almost as hearty as our breakfast had been; and in a little while wrapped ourselves in our blankets, with our feet toward the heaped-up fire, and went off once more to sleep, and slept through until sunrise of the following day. In truth, the mental strain, bred of our gloomy surroundings and of the dread of starvation that had possessed us, had taxed our physical strength more severely than our mountain climbing and our lack of nourishment. The great amount of strong food that we ate, and our long slumber, showed nature's demand upon us that our waste of tissue should be made good.

When we woke again, on the second morning, we all were fresh and strong and eager to press onward. There was little left of the sheep to carry with us; but Rayburn shot half a dozen birds—some species of duck—as we skirted the lake in our passage across the valley, so there was no fear that we should lack for food. At its western end the valley narrowed into a cañon. There was no choice of paths, for this was the sole outlet, and we were assured that we were on the right path by finding the King's symbol and the pointing arrow carved upon the rock. The cañon descended very rapidly, and by noon we were so far below the level of the Mexican plateau that the air had a tropical warmth in it; and so warm was the night—for all the afternoon we continued to descend—that we had no need for blankets when we settled ourselves for sleep.

Rayburn was of the opinion that we were close upon the Tierra Caliente—the hot lands of the coast; and when we resumed our march in the morning he went on in advance of the rest of us, that he might maintain a cautious outlook. If he was right in his conjecture as to our whereabouts, we might at any moment come upon hostile Indians. It was toward noon that he came softly back to us and bade us lay down our packs and advance silently with him, carrying only our arms. "There's something queer ahead; and I thought that I heard voices," he explained. "But there must be no shooting unless we are shot at. Some of these Indians are friendly, and we don't want to start a row with them if they are willing not to row with us."

The cañon was very narrow at this point, and high above us its walls came almost together, so that the shadows about us were deep. As we rounded a bend in it, the rock closed above our heads in a great arch, so that we were in a sort of natural tunnel; at the far end of which was a bright spot showing that a wide and sunny open space was beyond. But over this opening were bars which cut sharply against the light, as though a gigantic spider had spun there a massive web; and as we drew nearer to this curious barrier we saw beyond it a broad and glorious valley, rich with all manner of luxuriant tropical growth, and flooded everywhere with the warm light of the sun.

We approached the strange barrier cautiously, and our wonder at it was increased as we found that it was made of the bright metal of which we had found so many specimens; and still more we wondered as we found that the bars were fastened on the side from which we approached—so that we could remove them easily, while from the side of the valley they presented an impassable barrier. In strong excitement we drew out the metal pins which dropped into slots cut in the rock and so held the bars fast; and in a few minutes we had cleared the way for our advance. Just as we were making ready to pass through the opening we heard the sound of voices; and as we quickly drew back into the shadows two men sprang up before the opening, and cried in wonder as they saw that the lower bars across the opening were gone. Yet the expression upon their faces was not that of anger; rather did they seem to be stirred by a strong feeling of joy, with which was also awe. Both men were accoutred in the fashion which the pictured records show was usual with the Aztec warriors, and one of them—as was indicated by his head-dress and by the metal corselet that he wore—was a chief; and they challenged us sharply, yet with gladness in their tones, in the Aztec tongue.

So sudden and so ringing was this challenge, and so startling was the uprising of the men before us, that as we sprang back into the shadow we instinctively stood ready with our arms. But Fray Antonio, not having any intent to join in the fight, was cooler than the rest of us, and instantly perceived that fighting was not necessary. Therefore he it was who first spoke to these strangers; and his first word to them was, "Friends!"

Then the watchmen, for such they seemed to be, spoke eagerly together for a moment, and pressed to the opening to look upon us, yet seeing us but dimly because of the dark shadows which surrounded us. Pablo was closest to them, and I marvelled to see how like them he was in look and in air. Him they first caught sight of, and as they saw him they both turned from the opening, and, as though calling to some one at a distance, gave both together a great glad shout. Instantly, at some little distance, the cry was repeated; and so again further on and yet further, with ever more voices joining in it; so that it swelled and strengthened into a great roar of rejoicing that seemed to sweep over the whole of the valley before us, and fill it everywhere with tumultuous sounds of joy.

As though the duty that they were charged with had been thus accomplished, the men turned again to us, and he of the higher rank, speaking the Aztec language, yet with turns and changes in that tongue which were strange to me, eagerly called to us:

"Come forth to us! Come forth to us!" he cried. "Now is the prophecy of old fulfilled, and the watch rewarded that our people have maintained from generation to generation through twenty cycles here at the grated way! Come forth to us, our brothers—who bring the promised message from our Lord and King!"

I turned to Fray Antonio as these words were spoken, and I saw in his face that which made me confident in my own glad conviction that here at last was the secret place for which so long, and through such perils, we had sought. Here indeed had we found the hidden people of whom the dying Cacique had spoken and of whom the monk's letter had told; the strong contingent of the ancient Aztec tribe that ages since the wise King Chaltzantzin had saved apart, that when their strength was needed they might come forth to ward their weaker brethren against conquest by a foreign foe. And the great happiness begotten of this glad discovery filled all my body with a throbbing joy.

Yet as we went out through the opening that we had made between the bars, and the watchers saw us fairly in the sunlight, they sprang back as though in alarm. Rayburn met this demonstration promptly by making the peace sign—raising aloft the right arm—that is common to all North American Indians; and after a moment of hesitation the chief answered to this in kind. So there was peace between us as we advanced; but it seemed to me that their regard of us now had in it more of wonder and less of awe.

[TO BE CONTINUED.]

CROWDING THE ELEVATED TRAINS.

The verity of our first-page illustration this week will be appreciated by every one familiar with New York city. The uncomfortable crowding of the elevated trains morning and evening has become a permanent condition, and will so continue until the demand for rapid transit in the metropolis is very much more satisfactorily met than it is at present. The picture portrays what may be seen at almost any station during the busy hours.

The situation is at its worst at the City Hall terminus of the Third Avenue line. There the crush at times becomes almost painful, and for weak and aged persons is even not without the element of danger. A veritable jam forms at each car entrance, and when the last out-coming passenger finds a precarious foothold on the station platform, the turbulent in-pouring, attended with bumps and collisions, which are not recked of in the general excitement, begins. It is interesting to note on the countenances of many of the waiting throng the different phases of the struggle going on between dignity and the desire for a seat. The individual who is in the habit of stating with pride to his acquaintances that he "never gets left" is on hand in force. There is none of the struggle in question in his case, however, since he pays no tribute whatever to dignity. Seats are not numerous enough to go round, and he makes it his business to have one. He pushes his way through the crowd, edges in ahead of others, irrespective of sex, and rarely fails to win. His contempt for a man who will let a woman beat him, or who will yield to her a seat he has secured, is unspeakable. From this individual the degrees of hoggishness are shaded down, gradually giving way to good manners, of which representatives are not lacking. Be it said to the credit of human nature that there are many evidences of its better as well as its worse side at an elevated railroad-station.

There is no more than sufficient space on the platforms, as a rule, to conveniently accommodate, when the traffic is at its height, the regular gathering of passengers, and the consequence is that when trains are delayed there is a speedy congestion, all of which, unpleasant as it is, goes to show what a valuable and indispensable service the elevated railroads render the city. The primal cause of the prevailing difficulty is the placing of an extensive steam transportation system in streets that were not intended for or laid out for such a purpose. Necessarily, the facilities for trains and room for stations, so long as they are constructed wholly on the ordinary public highways, are limited. The effort has been to put new wine in old bottles, and it has not proved entirely successful. The time may or may not come when there will be means of transit in New York fully adequate to comfortably provide for passengers; but it is certain that improvement in that direction is retarded by the marvellous meekness with which the people of the city submit to being stood up on aisles and platforms, hung on straps, and to being packed in cars like sardines, if the transportation corporations elect to do business on that basis. Our picture represents one feature of the packing process.

GENERAL SHERMAN.

Of the famous Union army commanders of a quarter of a century ago, only by a rare exception has one here and there lived to complete his seventieth year. Grant, Sheridan, Thomas, Meade, Halleck, McClellan, McDowell, Hooker, Burnside, and others, died before the Scriptural allotment of threescore and ten, and the same has been true of Hancock, Warren, and many other illustrious corps commanders. But General William Tecumseh Sherman, alert in mind and soldierly in bearing, still remains among us, sought out and honored everywhere in these piping times of peace as in the strenuous days of old. If in his countenance the grim look of five-and-twenty years ago has softened, if the tall form tells something of the ravages of time and of the tumultuous experience which has shortened the lives of so many veterans of the war, yet he is happily still vigorous, and a noble type of the American veteran soldier. In history he will hold unchallenged the second place for achievement and fame among Union generals, surpassed only in renown by that great captain whose trusted lieutenant he was throughout the war.

It is remarkable that Grant and Sherman were both natives of Ohio, where also a third renowned soldier, Sheridan, had his home from childhood, supposing himself, indeed, until researches made within two years of his death, to be an Ohioan also by birth. Like Grant, too, Sherman had long left the army for civil life when the guns of Fort Sumter called him back. His experience in that interval is curious to recall. Born February 8, 1820, at Lancaster, being the sixth of eleven children, on the death of his father—a lawyer by profession, and Judge of the Supreme Court of Ohio—he had been adopted at the age of nine by Thomas Ewing, of Lancaster, who afterward became Senator from Ohio and Secretary of the Interior. Sent as a cadet to West Point when sixteen years old, he was graduated, in 1840, sixth in a class of forty-two, which included that masterly soldier George H. Thomas. As a Second and then as a First Lieutenant in the Third Artillery, he served in Florida and other Southern States, but when the Mexican war broke out was, to his great discontent, detailed for recruiting duty. However, assigned at length to a battery which had been ordered to California, he made the voyage around the Horn, and his descriptions of subsequent life on the Pacific coast form interesting chapters of his admirable memoirs. Returning to Washington in 1850, he married Miss Ellen Boyle Ewing, daughter of the Secretary, and soon after was made a Captain in the Commissary Department. Three years later he resigned from the army, which then had so little to promise, and became manager of the San Francisco branch of the bank of Lucas, Turner, & Co., of St. Louis. On the closing of this branch, in 1857, he became for a time an agent in New York of the same banking house. Next, with his brother-in-law, he formed at Leavenworth the law partnership of Sherman & Ewing. His succeeding venture, which followed rapidly, was as Superintendent of the Louisiana State Military Academy at Alexandria, an occupation broken up by the secession of that State. One more experiment remained in a record which recalls the various changes Grant was simultaneously undergoing in civil life. Sherman became, early in 1861, President of the Fifth Street Railroad in St. Louis. Then at last war opened to him his great career.

Appointed Colonel of the Thirteenth Infantry, a regiment to be raised for the regular army, Sherman commanded at Bull Run the Third Brigade of Tyler's division, comprising the Thirteenth, Sixty-ninth, and Seventy-ninth New York, and Second Wisconsin, and there, as he has said, "for the first time saw cannon-balls strike men and crash through the trees." Soon after this battle he was made a Brigadier-General of Volunteers, and assigned to the Department of the Cumberland, under General Robert Anderson, whom he soon succeeded in command. There he astounded the Washington optimists, who were going to put down the revolt in sixty days, by declaring that to simply retake the Mississippi Valley would require 200,000 men. The newspapers said he had gone crazy, and he found his own officers and soldiers looking askance at him. This odium, hard to bear at the time, vanished a few months later, when, in April, 1862, in command of a division of Grant's army, he bore the brunt of the tremendous Confederate attack at Shiloh, the bloodiest battle ever fought till then on this continent. "I feel it a duty," said Grant, in his report of that fearfully "close call" for the Union forces, "to mention a gallant and able officer, Brigadier-General W. T. Sherman," who "displayed great judgment and skill in the management of his men." Still more emphatically Grant afterward wrote, "To his individual efforts I am indebted for the success of that battle"; while General Halleck, then in command at the West, sent word to Washington, "It is the unanimous opinion here that Brigadier-General W. T. Sherman saved the fortunes of the day on the 6th, and contributed largely to the glorious victory of the 7th." On the first day of the battle Sherman had been wounded in the hand, but continued at his task. Assuming command in the field, Halleck slowly spaded his way to Corinth, which Beauregard called "the strategic point of the campaign," as, indeed, its capture showed, since with its fall followed that of Memphis. To the command of Memphis, accordingly, Sherman was assigned, and there he displayed vigorous administrative qualities. He was made a Major-General of Volunteers, to date from May 1, 1862.

A splendid aspiration had taken possession of the West—that of reconquering the Mississippi from Cairo to the Gulf—and this alike defined and stimulated its efforts. On that line Vicksburg was the next stronghold to attack, and Sherman was called upon by Grant to lead an expedition thither. This he promptly did; but his assault was repulsed, owing partly to the unexpected strength of the works, and partly to Van Dorn's capture of Holly Springs, Grant's own base of supplies, which destroyed his power to give the prearranged co-operation. Sherman, however, under McClernand, promptly utilized his force by attacking Fort Hindman, on the Arkansas, which was captured, with a garrison 5000 strong. Then Sherman took part with his corps, the Fifteenth, in Grant's campaign against Vicksburg, which, after the victories of Champion's Hill and the Big Black, was crowned with the surrender of the city and its works, containing more than 250 cannon and 30,000 men, all that was then left of Pemberton's army. That same day, the 4th of July, 1863, Sherman was hurried off against the co-operating force of Johnston. "When the place surrendered on the 4th," Grant reported, "two days earlier than I had fixed for the attack, Sherman was found ready, and moved at once."

But his reputation for celerity was soon to have other tests. Rosecrans, having encountered Bragg in the tremendous battle of Chickamauga, had fallen back into Chattanooga, and was virtually under siege. Grant, summoned thither from Vicksburg to take command, hurried Sherman, who had succeeded to the command of the Army of the Tennessee, to the rescue. Arriving at Chattanooga from the long march, Sherman took post on Grant's left at Tunnel Hill, and when all was ready engaged the enemy hotly; while Thomas, with the Army of the Cumberland, "forming on the plain below with the precision of parade," swept magnificently across Mission Ridge, and drove Bragg back into Georgia. Meanwhile Burnside had been besieged by Longstreet at Knoxville, and was in great stress. Without a pause for rest, Sherman was sent to his relief; but Bragg's disaster had broken up the siege, and Sherman marched back to Chattanooga. Returning to Vicksburg, he organized a strong expedition and raided the country to Meridian, destroying Confederate communications. Congress voted thanks to him and his men "for their gallant and arduous services in marching to the relief of the Army of the Cumberland, and for their gallantry and heroism in the battle of Chattanooga, which contributed in a great degree to the success of our arms in that glorious victory."

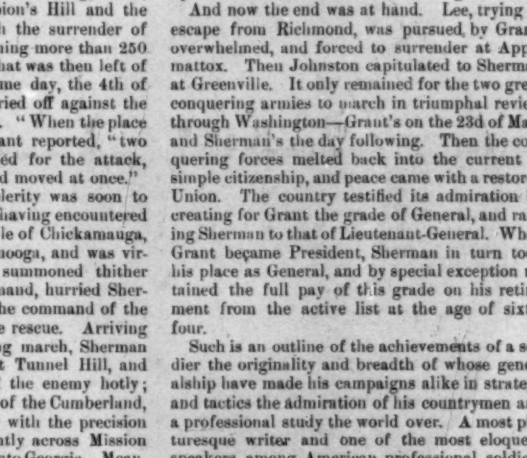
The spring of 1864 opened with Grant in Virginia, commanding all the armies as Lieutenant-General Sherman, and in charge of the campaign at the West, succeeding Grant as commander of the Military Division of the Mississippi. Starting from Ringgold, in front of Chattanooga, with nearly 100,000 men, including Thomas's Army of the Cumberland, over 60,000 strong, McPherson's Army of the Tennessee, and Schofield's Army of the Ohio, Sherman drove back his opponent, the wary and skilful General J. E. Johnston, in a series of remarkable movements, now fighting and now flanking him. He forced him from his stronghold at Rocky Face Ridge by turning his left, and when he fell back to Resaca, Sherman fought him there; then, threatening his flank again, threw him back to Cassville and across the line of the Etowah. He fought him at New Hope Church and at Dallas, and assaulted him on the impregnable heights of Kenesaw. Then returning to his old manœuvre on a flank march to the right, he executed it with a superb skill that placed him firmly on the Chattahoochee, with all North Georgia in his power. Alarmed at the progress of the Union arms, Jefferson Davis displaced Johnston by Hood, the dashing Texan, who tried the offensive, only to be severely defeated at Peachtree Creek, Atlanta, Ezra Church, and Jonesborough. Then Sherman entered Atlanta in triumph. The whole North rung with applause, and President Lincoln sent him the thanks of the nation "for the distinguished ability and perseverance displayed in the campaign in Georgia, which, under divine favor, has resulted in the capture of Atlanta. The marches, battles, sieges, and other military operations that have signalized the campaign must render it famous in the annals of war."

Hood, bent on retrieving his fortunes, struck out northward for a campaign in Tennessee, hoping to force Sherman's retreat. But the Union strategist sent Thomas to confront that danger, and in due time Hood was checked with severe loss by Schofield at Franklin, and then overwhelmingly defeated by Thomas at Nashville, in one of the few pivotal battles of the war. Meanwhile Sherman, cutting loose from his base, marched from Atlanta seaward, foraging on the country, and furnishing one of the most memorable examples in history of the great movable column. Approaching Savannah, he carried Fort McAllister by assault, and the country was thrilled with this message from him to President Lincoln, "I beg to present you as a Christmas gift the city of Savannah, with 150 heavy guns and plenty of ammunition; also about 25,000 bales of cotton."

Refitting without delay, Sherman set out, when February opened, upon another great march, this time for the conquest of the Carolinas and an approach to Richmond. His right wing was under Howard, and his left under Slocum, with Kilpatrick commanding the cavalry, as in the march to the sea. Wading swamps, fording rivers, and scattering opposition before it, his triumphant army pressed northward. Charleston was evacuated by Hardee, when Sherman, passing in its rear, cut its communications; Columbia fell into his hands; the line of North Carolina was crossed; and the enemy was fought at Averasborough and Bentonville. Then Sherman joined hands at Goldsborough with Schofield, who had marched up from the coast and taken Wilmington.

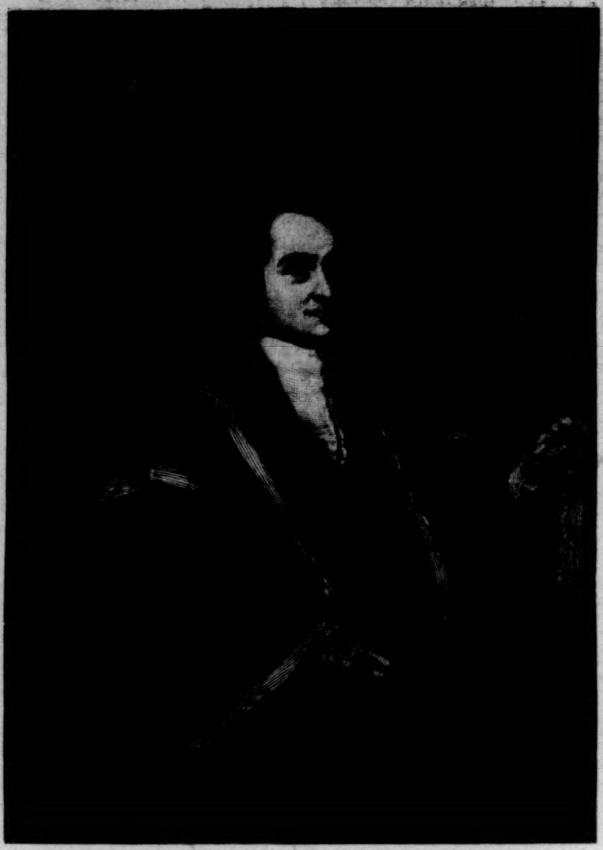
And now the end was at hand. Lee, trying to escape from Richmond, was pursued by Grant, overwhelmed, and forced to surrender at Appomattox. Then Johnston capitulated to Sherman at Greenville. It only remained for the two great conquering armies to march in triumphal review through Washington—Grant's on the 23d of May, and Sherman's the day following. Then the conquering forces melted back into the current of simple citizenship, and peace came with a restored Union. The country testified its admiration by creating for Grant the grade of General, and raising Sherman to that of Lieutenant-General. When Grant became President, Sherman in turn took his place as General, and by special exception retained the full pay of this grade on his retirement from the active list at the age of sixty-four.

Such is an outline of the achievements of a soldier the originality and breadth of whose generalship have made his campaigns alike in strategy and tactics the admiration of his countrymen and a professional study the world over. A most picturesque writer and one of the most eloquent speakers among American professional soldiers of our times, he has also a personality so marked with its soldierly directness, its frankness pushed to a fault, its prompt, invariable renunciation of political honors and temptations, and its sympathy with the hundreds of thousands of veterans, who still talk of "Uncle Billy," that he becomes an almost ideal link to connect the rising generation with the one that fought with him five-and-twenty years ago. That he may long so remain will be the wish of millions of his countrymen for his seventieth birthday.

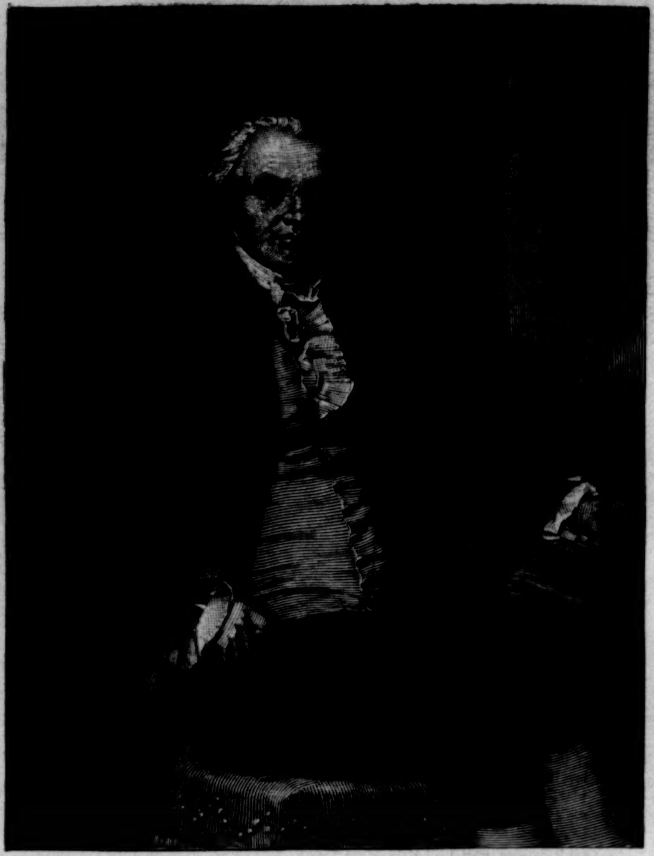


WAITING FOR A SIGN.

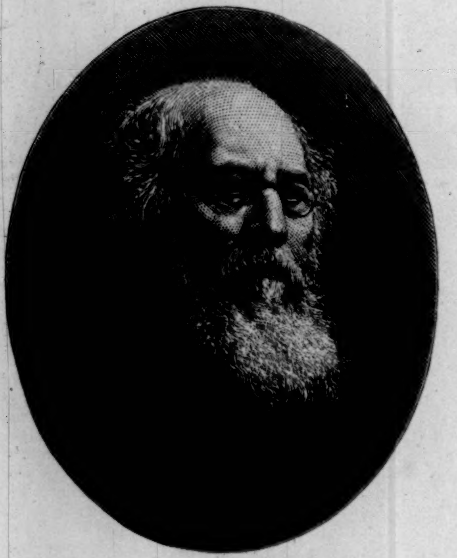
"Beder, vwen I squwint mein left eye, you turn de leaf, so dare vwon't pe no break in de moosic;" and so poor Peter stands for an hour at a time gazing into his ancestor's left eye.



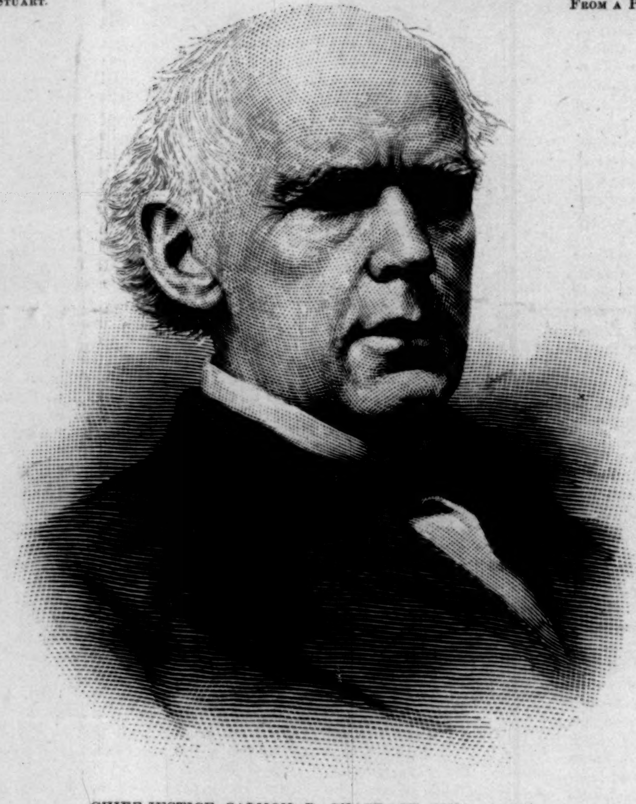
CHIEF-JUSTICE JOHN JAY, OF NEW YORK. 1789-95.—FROM A PAINTING COPIED BY GRAY FROM THE PORTRAIT BY GILBERT STUART.



CHIEF-JUSTICE OLIVER ELLSWORTH, OF CONNECTICUT. 1796-1800. FROM A PAINTING BY WHEELER.

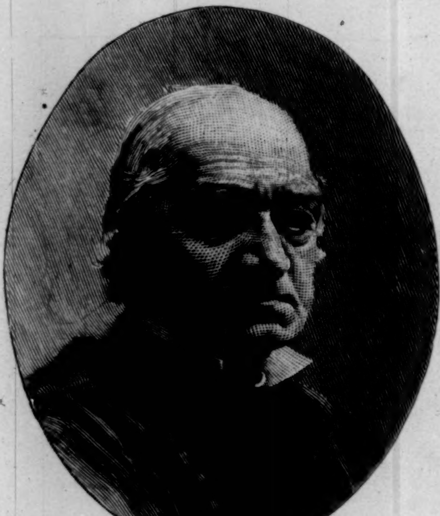


JUSTICE STEPHEN J. FIELD, OF CALIFORNIA. APPOINTED 1863.

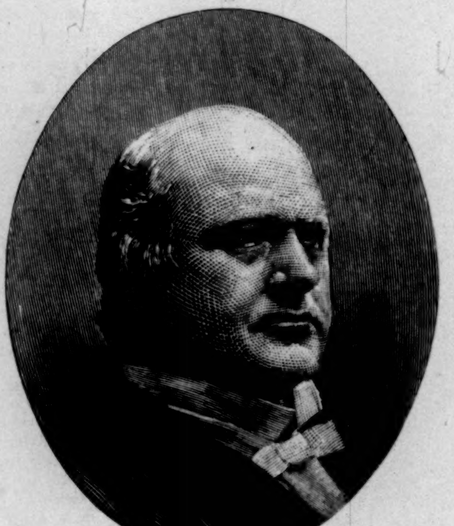


CHIEF-JUSTICE SALMON P. CHASE, OF OHIO. 1864-73.

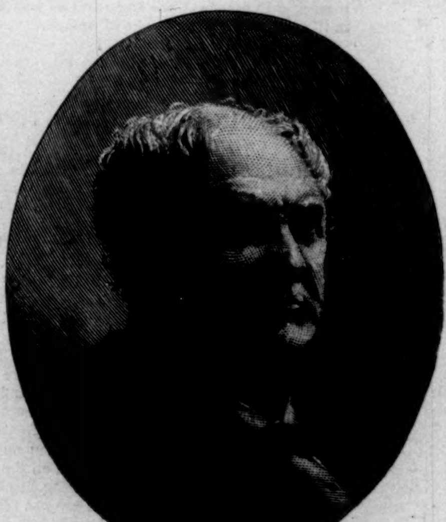
CHIEF-JUSTICE MORRISON R. WA



JUSTICE JOSEPH P. BRADLEY, OF NEW JERSEY. APPOINTED 1870.



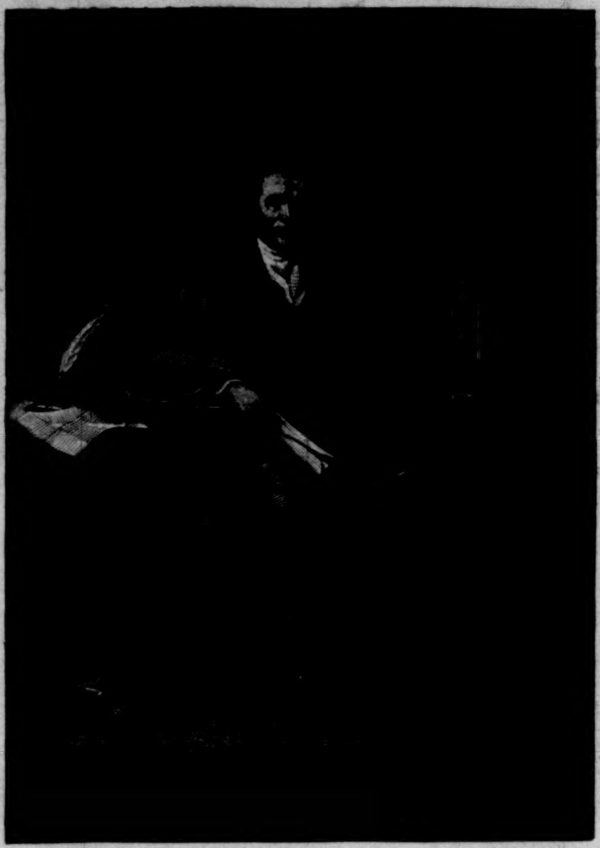
JUSTICE JOHN M. HARLAN, OF KENTUCKY. APPOINTED 1877.



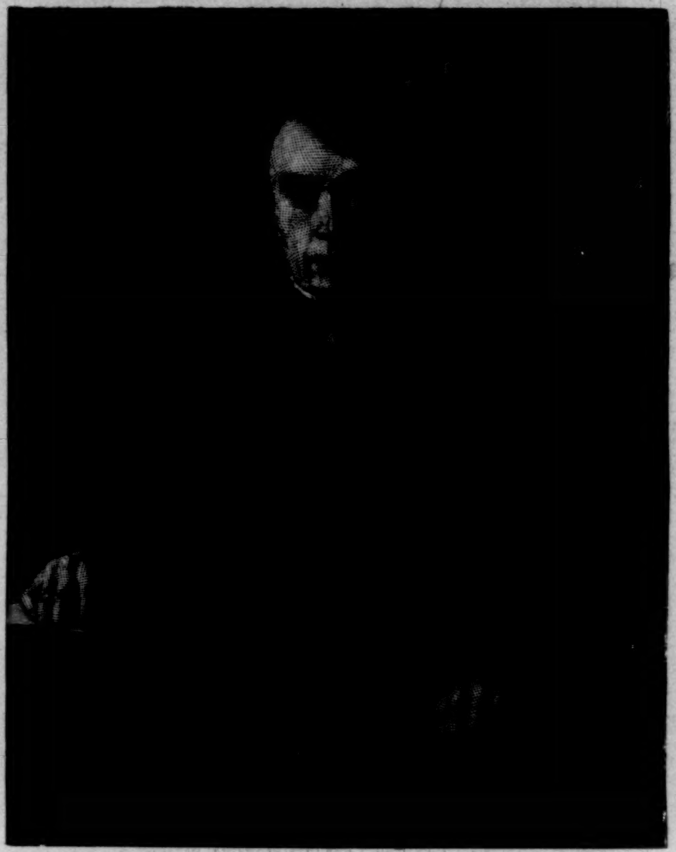
JUSTICE SAMUEL F. MILLER, OF OHIO. APPOINTED 1862.

THE CENTENNIAL OF THE SUPREME COURT OF THE UNITED STATES—PORTRAITS OF THE CHIEF-J

FROM PHOTOGRAPHS BY BELL, WA

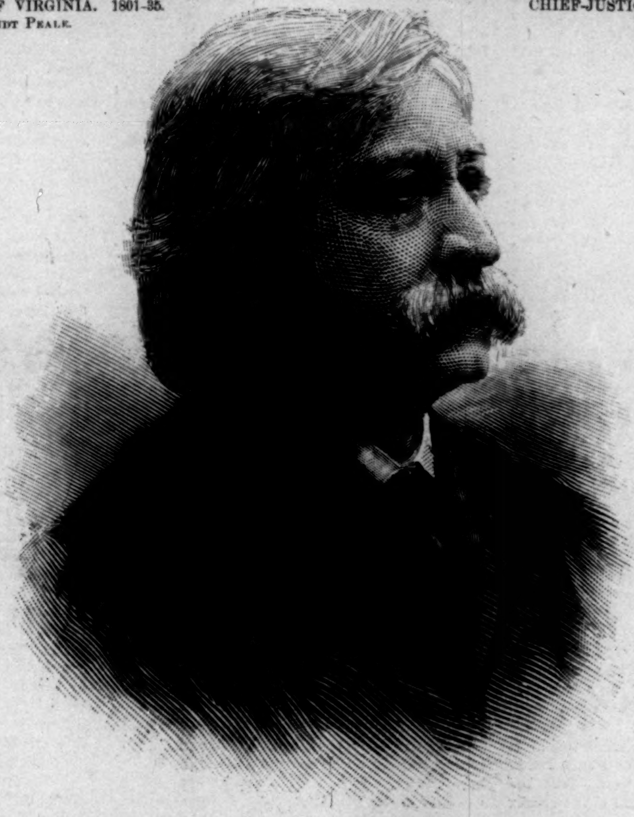


CHIEF-JUSTICE JOHN MARSHALL, OF VIRGINIA. 1801-35.
FROM A PAINTING BY REMBRANDT PEALE.



CHIEF-JUSTICE ROGER B. TANEY, OF MARYLAND. 1836-64.
FROM THE PAINTING BY G. P. A. HEALEY.

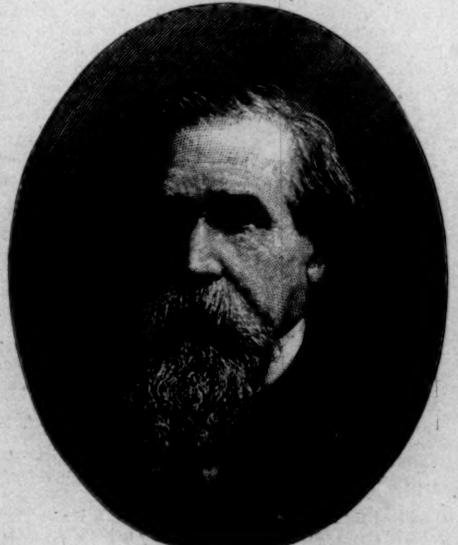
R. WAITE, OF OHIO. 1874-88.



CHIEF-JUSTICE MELVILLE W. FULLER, OF ILLINOIS. APPOINTED 1888.

JUSTICE SAMUEL BLATCHFORD, OF NEW YORK.
APPOINTED 1882.

JUSTICE HORACE GRAY, OF MASSACHUSETTS.
APPOINTED 1881.



JUSTICE LUCIUS Q. C. LAMAR, OF MISSISSIPPI.
APPOINTED 1888.

JUSTICE DAVID J. BREWER, OF KANSAS.
APPOINTED 1889.

EF-JUSTICES FROM THE FORMATION OF THE COURT, AND OF THE PRESENT ASSOCIATE JUSTICES.
WASHINGTON.—[SEE PAGE 110.]

MIS' DAVID'S AUCTION.

"I TELL ye, Mis' David, 'twon't do fur you ter live here alone," said Mr. Curtis Bachelder to his cousin, the widow of David Johnson, or Mis' David, as she was called by everybody in the town. "Careline 'n' I was a-talkin' it over yesterday, 'n' ez fur that mahter, we're frequently thinkin' 'n' speakin' about it.' ''N',' says Careline, 'there's her own merried daughter—her own flesh 'n' blood—able 'n' mor'n willin' to take care of her in her own house, 'n' give her every comfort, 'n' there's she livin' on an out-the-way farm all sole alone, liable to be took down with rheumatism any time, 'n' wearin' herself ter death doin' the work thet she hadn't orter touch a finger to. I wisht I hed sich a chance as thet to git red o' drudgery 'n' see somethin' o' the world.' Now I ain't a-sayin', Mis' David, that I hanker after the city myself. There's enough of the world fur me, 'n' more too, over ter Hart's Mills, but if I was in your place I'd sell out before next week, 'n' go to live with Mary Frances. 'Tain't safe fur ye to be here alone, as helpless as you be sometimes. Old Mis' Pratt, over in Solon, died all alone the other day. She was taken sudden, 'n' went off before anybody knew she was ailin'. It's a waste fur one person to live by herself, too. She eats unbeknownst twice the amount that two or three livin' together would. When folks are talkin', ye see, they can't make 'way with so much victuals. Don't ye know it? Then a farm alwers runs down under sich circumstances. It's the best thing to sell it; for if ye hire a manager, he manages to put everything into his own pocket."

"Oh yes, I expect that, Cousin Curtis; but I do git a tolerable livin' here, after all; 'n' if I go to live with Mary Frances, I shall be beholden to her 'n' her husban', 'n' 'tain't a comfortable feelin' to be eatin' other folks's bread. I don't see how I *can* part with the old place, either. I've lived here goin' on thirty-five years, ever sence I was merried. Mary Frances thinks I'd orter be perfectly willin' ter sell the farm, buildin's, and everything there is in 'em. She says there's nothin' in the house she cares about, 'n' she don't see why I should care about sich a lot ov old-fashioned rubbish. Them's jest the words she used. Rubbish! Why, there ain't a house in the place thet's furnished better, exceptin' Dr. Winslow's, mebbe; and she was so proud 'n' pleased herself when we hed thet new ingrain carpet fur the parlor, 'n' them stuffed chairs, 'n' the centre table. 'N' when her father—poor David thet's gone—bought her thet flowered chamber set for her own room, she was so tickled thet she did nothin' but set 'n' look at it fur days 'n' days. She said, the last time she was here, she'd like the hall clock, sich clocks were in fashion now, only 'twarn't nice enough. She'd ruther buy a copy cf the antique than to have folks think she'd inherited sich a common old thing."

"Sho!" remarked Cousin Curtis, as Mis' David paused a moment with quivering lip.

"She *did* condescend to take my best brass andirons, and grandmarm's spinning-wheel," she went on. "She was a-goin' ter hev gilt or somethin' put on ter the wheel, 'n' hev it fur a parlor ornament. She didn't say what she was a-goin' ter do with the andirons; put 'em up on the mantel-piece fur a show, very likely. She hes jest sich under-witted goin's on at her house. But it *does* hurt me unaccountable ter hev her so unfeelin' about the place, though p'r'aps she's right about sellin' it. She was a real happy girl, too, 'n' liked her home, 'n' set out rose-bushes in the front yard, 'n' fixed up consid'able with her own hands." Mis' David's voice grew very husky, and tears began to roll over her wrinkled cheeks. "But Mary Frances's ways ain't my ways now; I lost her before ever she merried Walter Riggs. 'Twas when I sent her over ter Dean Academy she got made over, 'n' I hevn't hed much comfort with her sence. She don't seem half as much like a daughter ter me as my niece Flory Whitin' does."

"Flory's a good girl enough," said Cousin Curtis; "but as fur Mary Frances bein' unfeelin', what is feelin', one way or 'nother? 'Twon't raise no garden sarse, nor set things a-movin' nohow. She 'pears to be anxious to do the right thing by ye, as fur's I ken see."

"If I warn't so dretful unlucky about gittin' the right person to live with me, I wouldn't harbor the thought of leavin' my home fur one minute. But now I'm alone, I'm kinder layin' on my neighbors. If it storms in the winter, they feel as if they must come 'n' dig me out, 'n' fetch me provisions from the store, 'n' my mail, 'n' everything, 'n' that ain't as comfortable as livin' on own folks. Mis' Hiram Small came over 'n' washed fur me last Monday. I was so lame I couldn't put one foot before the other, 'n' the woman from out back I hire to do it generally when I ain't fit was down sick. They're real good, all the neighbors are."

"What was the mahter with the last boy ye had—thet King boy from over Solon way? I thought he was a porty good feller ter work, 'n' he was real honest, Joe Trueworthy said."

"So he was, poor cretur; 'n' I tried ter keep him, but I felt myself fallin' from grace every day he was here, he tried me so. My dispersition got the upper hands o' me altogether. He was left-handed, you see. He could wash dishes as good as any girl, only he would take the dish mop in his left hand, in spite of all I could say or do. I'd try not ter look at him when he did it; but it was no use, I couldn't help it, 'n' it almost set me into fits. He'd handle the broom 'n' the hoe 'n' the pitchfork in the same way too; 'n' his left-handedness seemed ter kind o' git into his mind ez well. He'd wash up the floor 'n' sweep afterward; 'n' the way he'd eat when he got sot down ter the table was enough ter set anybody crazy. He'd always dip into pie or puddin', whichever we had, fust, 'n' finish up with a dish o' potaters, with molasses on 'em. Pork fat 'n' molasses was his favorite food—sich a heathenishness! Then I couldn't rig him up ter go ter meetin' so I warn't ashamed of him. He growed so fast there warn't no use a-tryin' ter keep his arms 'n' legs half covered up. They wanted him up ter Tim Macomber's, 'n' ez I knowed he'd be well treated there, I was glad ter let him go, though he was almost as good's a man on the farm. I don't want no more left-handed folks 'round me, though Mary Frances says it's the way ter use both hands alike. Some great man has wrote a book on the subject, 'n' she's tryin' to learn her little boy to use both his'n."

"Cur'us what new notions folks thet don't hev nothin' else ter do are gittin' up all the time," remarked Cousin Curtis, reflectively. "An' you didn't like the girl from over our way Phebe sent ye?"

"Why, yis; I liked her beautiful. That is, she was a real capable girl, savin' 'n' industrious; neat as a pin, too; but I don't b'leeve anybody under the sun 'd stan' the pecooliarity she hed. She was subject to the nightmare, 'n' screeched so nights thet I couldn't get a wink ov sleep. 'Twas in the summer-time, when the winders was open, thet she was here, 'n' Deacon White, goin' home late one night, heard her 'way over on the back road, 'n' come a-ridin' up post-haste ter see what was the matter. He thought there was murder bein' committed here. She said 'twas her religion. She'd jest been ter camp-meetin', 'n' got so excited 'n' happy that ez quick ez she got ter sleep she injoyed it all over agin. But I found, after I sent her home, that two whole jars of my strawberry perse'ves had been cut up, as well as a whole loaf of my richest plum-cake, with brandy in it, that I catilated would last me for company for a year at least, 'n' she didn't stay but a little mor'n three weeks."

"Jewhittaker! I don't wonder she hed nightmare!" ejaculated Cousin Curtis.

"Then one o' them Smalls that live up 'Coon Pond way come, and wanted me to take his girl Almiry. He said she'd been away to work in the factory, and it had kind o' wore on her; 'n' ez she couldn't afford to lay still—they was real poor folks—they was dretful anxious to git her a place as help in a fambly. I inquired about the girl, 'n' folks said that knew her they catilated she'd be jest the one fur me—real quiet 'n' lady-like, 'n' neat 'n' industrious about the house; handy with her needle, too; 'n' b'longed to honest, decent folks. I thought my troubles was over when she come, for I liked her first-rate. She was beautiful company, 'n' understood my ways; didn't turn the nose o' the tea-kittle toward the wall, nor put scented bedroom soap into the dish-water. But, goodness gracious! ef she didn't hev nightmare too. 'Twas the strangest happ'nin'. She didn't hev it reg'lar every night, like t'other one, but 'twas jest as bad, as I couldn't sleep for listenin', 'n' expectin' every minute she'd fetch a screech. Sech screeches as she giv' would freeze the blood in yer veins. The fust time she did it I thought the house was afire, 'n' jumped out er bed 'n' went to pumpin' water as hard's I could pump; lamed me so I couldn't set up the next day. She didn't look well, but twarn't eatin' that ailed *her*, so I doctored her up with thoroughwort tea 'n' life-o'-man fur her blood, to see if she wouldn't quit it. But she didn't. She kep' it up jest the same, 'n' I found I was gettin' all run down with loss o' sleep 'n' anxiety, so I hed to send her away. But I giv' her father a good coat that b'longed to poor David thet's gone, 'n' her a new dress—one that Mary Frances sent up 'n' it didn't suit me. They was so poor, I hated to turn her off."

"Well, Mis' David, you've always been a-lookin' for the finger o' Providence, 'n' now you've got it pop. If sich a cur'us happenin' as that—them two nightmare hired girls, one after t'other—don't mean somethin', I'll be beat. 'N' what can it mean, but that you'd orter sell the place, 'n' go where you can be taken care of as you'd orter be."

"It *does* 'pear like a cur'us dispensation," sighed Mis' David. "But I thought I was goin' ter be pervided for beautiful, after a while then. It did look as if Flory was goin' ter merry Frank Wheeler, 'n' I catilated Frank would take the farm, and build a mill down there t' the creek; you know there's splendid water priveleges here, 'n' he 'n' Flory would come 'n' live with me. I always meant ter leave the farm to Flory. Mary Frances hes got more'n enough o' this world's goods, and Frank's jest the man I should 'a' picked out for her. He's well off; his father, ole Squire John, left him two thousan' dollars; 'n' what's better, he's got common-sense. But, after all, she went 'n' giv' him the mitten, 'n' he was so dretful cut up about it that he started for southern Californy last week, 'n' she's gone back to her school over ter Belport. I wanted her to stay with me the worst kind, but of course she couldn't afford ter give up her school. She gits four hundred dollars selery over there. If she was merried 'twould be a different thing. Now I don't know what I *shall* do."

"Flory Whitin' giv Frank Wheeler the mitten! Well, that beats all. She ain't like to git another such chance. Frank's the smartest young feller in the county. There's the finger o' Providence agin, Mis' David. What's the reason she wouldn't hev him?"

"She said he had an Adam's apple, 'n' she couldn't bear a man with an Adam's apple," sighed Mis' David.

"Well, well; wus 'n' wus the more of it! What do ye s'pose she'd say ter the crown-prince o' Great Britain? He might have a freckle on his nose, or somethin'."

"Sometimes I think I shell be obliged ter let the place, Cousin Curtis," proceeded Mis' David—"I know of a man 'twill take it, a cousin of my nearest neighbors, Luke Perkins—'n' sell my furniture to auction. I couldn't let that, 'n' if I could, 'twould be all stove to pieces, 'n' I shouldn't have no peace about it if I went 'n' hired anybody to store it for me. But 'twill be dretful hard—dretful."

"If you take my advice, you'll sell the whole thing. There's Joe Barnard, he's a fust-rate auctioneer; he'll dispose of your stuff fur ye any day; 'n' I'm sure I could find ye a good customer for the farm. A man was speakin' to me about it the other day. It's ruther poor sile, kind o' run out, I reckon; but the timber land on it is prime; 'n' then, as you say, there's the water priv'lege."

"'Tain't no sich thing; 'tain't run out the least," said Mis' David, indignantly.

"I don't see how 't can help bein', under the circumstances."

"There ain't no circumstances, I declare, Cousin Curtis. It seems as if you must hev some motive in wantin' me ter get rid o' my place so dretfully."

Cousin Curtis tugged at his sandy beard, and vehemently disclaimed any motive at all beyond doing her a service.

"'Twon't be doin' me a service to git me ter part with my old home," said Mis' David, tearfully.

But after a good deal more talk of the same kind (Cousin Curtis was a noted "argufier" in his own village), Mis' David was brought to say that she would think about selling. She thought it most probable she should be obliged to let the place, and sell the greater part of her household goods, and she should be much obliged if he would manage the sale for her. She was going to make one more effort to remain, however. There was a boy over at the poor farm that they wanted to get a place for to work for his board and clothes. They said he was as good as a woman about the house, knew how to milk, and was real strong and handy. She was going to send for him, and if he proved satisfactory, she should go on living in the same way.

But alas for poor Mis' David! The new boy was anything but satisfactory. He made his début by stealing nearly all the pots and kettles in the house, which he sold for old iron, investing the modest sum which they brought in pea-nuts at the variety store; and one night, the stormiest of the season, she found herself alone once more. In the morning, when one of her neighbors came over in the midst of the sleet and wind to look after her, he found her unable to move hand or foot, having been seized with one of her sudden attacks of the "rheumatics." There was no fire in the house; the barn door had blown down; the cows hadn't been milked since the morning before, and were nearly perished with the cold. Mis' David wrote to Cousin Curtis as soon as she was able to do so, and told him she had made up her mind. She shouldn't sell the farm, oh no! she was surer than ever she couldn't do that; but she should let it to John Perkins, Luke's cousin. He had agreed to let her reserve two small rooms, where she could store away enough furniture to keep house with, if she should be able to come back in the spring, and she would like to have the other things sold as soon as possible, as she didn't like to have the sale before her to dread for long.

Cousin Curtis came over to Perimport at once to make arrangements for the auction. Notices were printed and displayed in the store, the post-office, along the fences, and on the guideposts. Nothing else was talked of in the town, for never in its whole history had a sale of this sort been known before. Once a farm had been disposed of under the hammer, a piggery, and the mill over at Dark Cove, but never any household furniture. Then Mis' David's furniture, her table-linen, crockery, and blankets, her curtains and carpets, had long been the envy of her neighbors, and the fame of their elegance had reached the surrounding towns and hamlets; and now that there was going to be an opportunity to inspect these articles at one's leisure, and it might be, fortune favoring, to possess one or more of them by paying half of the original cost at least, there was great agitation of mind on the part of the entire feminine community. Heart-burnings, impatience, anxiety, suspicion, prevailed, together with a lively expectation, which caused everything else to be forgotten. Even the news of an approaching wedding in the immediate neighborhood, coming with startling unexpectedness, was scarcely mentioned, for it was known that several ladies had made up their minds to have Mis' David's parlor carpet, and were going to bid against each other. Others were suspected of wanting it, and regarded with disapproval and dread. Mrs. Deacon Giles rode twenty miles—ten miles and back—to inform her sister, who had a new house and nothing to furnish it with, of the sale, thereby making several enemies for life.

"As if there warn't enough folks right round here ter grab things, without takin' pains to bring folks from thet distance to get everything!" said the neighbors.

"They say that she's put her white, gold-banded chiny inter the sale," said Mrs. Lisher Johnson to her daughter; "'n' I'm bound 'n' determined ter hev it. Mis' Almiry George is determined to hev it too, 'n' so's Mis' John Clark. I wonder Mis' David didn't save 'em for Flory, 'n' all her best things, fur that matter."

"Why, Flora was the one that advised her to sell them the strongest," said the daughter. "She's got her school, you know, and don't know as she will ever want them."

"Well, she alwus was a queer girl. Mis' David's queer, 'n' all her race."

As the eventful day drew near, people looked more and more askance at each other. Innocent souls, who had no idea of making any purchases at all, were suspected of being in league with the auctioneer, that they might carry all before them. The back folks, as the people who lived in the rear of the village on the hills were called, a poverty-stricken and miserable set, borrowed clothing from far and near that they might obtain a sight of the proceedings, if they had no money to spend. Matrons who had brought to light the savings of years with which to invest in some coveted article, passed sleepless nights until the important morning arrived. And though the conditions for sailing were favorable enough, several fishing-boats waited over for the occasion.

In the mean time, poor Mis' David, assisted by two or three kind friends, busied herself in sorting and arranging the various articles intended for sale.

"Good land! what am I a-doin'? Signin' my death-warrant? It seems like that," the unhappy woman would ejaculate at intervals, pausing from her work. "It don't seem 's if I could do it; but there, it's for the best. Providence did p'int to it as the only way for me ter git along. Anyhow, now I've got so far, I must put it through. Folks would be mad 'n' make game o' me if I should back out now. 'N' I've writ to Mary Frances I'm comin' 'n' all."

The morning of the sale broke fair and bright. The clouds and gales had vanished; the sharp frosts and wintry chill; Mis' David's rheumatics, also. Life had a new aspect.

"Oh, I was too hasty—too hasty," said Mis' David; for it seemed as if the old place had never looked so pleasant, or its furnishings so home-like and attractive. The air blew over from the pasture laden with the scent of pine, and ringing with the familiar music of the brook that had freed itself from the ice, and hurried through the orchard to the sea not far distant. Everything seemed to return her mournful gaze with reproach like a hurt human face—the sky; the gray old barns, their eaves bare of swallows now, but gilded by the sunshine; the bare trees in the orchard, such old, old friends; the pump in its bower of evergreen, the frost melting like steam from its weather-beaten sides as she so often had seen it before; even the chairs and tables within; the monthly-rose bushes and sage-geraniums in the kitchen window; the gossiping old clock; the figures in the homespun rugs; and the cherished carpet. There was nothing that was not endeared to her heart by some tender association, with the exception of a few stylish modern articles which Mary Frances had sent to her from the city.

Cousin Curtis and Careline his wife appeared at an early hour. Cousin Curtis very solemn and important, Mis' Careline eager to see if there was not something among the things which she especially wanted.

"'Tis a funeral that's goin' to be, ain't it? You look just like it, Cousin Curtis, 'n' I can't git it out o' my mind that it's so," said Mis' David, as they entered the house. "I find myself walkin' about real soft, 'n' kinder holdin' my breath, 'n' there's the same dretful dread weighin' me down."

"Sho! you take things too hard. You're jest like your mother before ye. Everybody says she wore herself out a-frettin' about nothin'. The Bachelders are all master-hands fur takin' on."

By this time more relatives and particular friends were arriving, and Mis' David donned her best bonnet, with the widow's cap and long crape veil, as if it were an affair of great ceremony at least, and sat down in the midst of them, white and tremulous.

"Cousin Curtis, you know you said you'd bid in whatever I didn't feel as if I *could* part with, 'n' I think 's likely I shall feel 't the last minute as if I couldn't let some things go, though now I've been 'n' brought such trouble on myself, I mean ter be firm, 'n' go through it as fur forth 's I can. So you jest stay by me 'mongst the mourners, so's't I can git hold of ye when I want to."

"Poor dear soul, I'm 'fraid she's a-gettin' kinder light-headed," whispered one of her old friends to another; "'n' thet Cousin Curtis, as she calls him, I really believe is at the bottom of it all. My husban' says he's determined ter git holt o' the farm somehow, 'n' he thinks if he can once get her away from it and her furniture sold, he can manage ter get it inter his hands by hook or by crook. 'N' she's jest as unsuspectin' as a babe."

"Oh yes; lots o' folks say that. But 'tain't safe for her to live here alone at her age and with her poor health," returned the other.

"No, 'tain't; so he has a good cover for his carryings on."

The house was soon filled with a motley crowd of people. Some came on foot; some in comfortable carry-alls and buggies; some in ox-carts and express wagons. A family of "back folks" came in an old hay cart drawn by an unhappy-looking cow. It was the only means of conveyance they could obtain, and anything was better than staying at home from the auction. There were several babies in the crowd, whose disapproval of the proceedings, expressed with thrilling distinctness, wellnigh drowned the lusty tones of the auctioneer when he commenced the sale; and also a number of sticky and playful children under everybody's feet. Groups of sailors and fishermen stood in the doorways, eager to see everything that transpired.

"It *does* seem kinder like a funeral," remarked one of the neighbors to Mis' David, in the pause which fell upon the crowd just before the auctioneer mounted the chair.

"Yes," responded another pinched and doleful one, "'n' thet Joe Barnard, the auction man, like orfle Proverdunce, sich black clothes as he wears, 'n' so solumn 'n' important ez he is."

But Mis' David paid no heed to them. Her pale face was lighted by two bright crimson spots; and her eyes flashed as she watched a trio of women who were fingering a bright damask-covered lounge in the corner.

"Oh, it *does* seem 's ef I should go ravin' deestracted to see them slack back folks a-thumbin' my best things!" she exclaimed, starting from her seat.

The auctioneer began with the parlor, in compliance with the request of some people who lived at a distance and could not stop, but wished to buy some of its furniture.

"Now, ladies and gentlemen," he commenced, receiving breathless and open-mouthed attention, "I want a bid for these rich and elegant parlor

winder curtains. I'm told they've been used for some little time; but you can see they're good as new, magnificent in color, 'n' durable as well as harnsome—pure silk 'n' wool. What am I to have for these splendid articles."

Mis' David listened with calmness. She had once been anxious to get rid of those curtains. They shut out the air in the summer, made the room dark and gloomy, and did not coincide at all with her idea of the fitness of things. David that was gone did not approve of them either. But Mary Frances brought them from her own house, and had them put up there, so she had let them be. She wondered a little that the auctioneer should think them so splendid, that was all.

The bidding was very lively on these curtains, as Mrs. Deacon White and Mrs. Hiram Pratt were both determined to have them. Each knew the other's determination beforehand, and Mrs. White, whose purse was much longer, was prepared to pay any price for them, for the sake of outdoing her neighbor, who had no right to aspire to such fine things. Both ladies had very flushed and excited faces, and to get them from Mrs. Pratt, Mrs. White was obliged to pay more than their original cost. When they were finally knocked down to her, she marched in triumph across the room, stationing herself before one of them to keep off intrusive fingers, and her two daughters before the others.

"I declare that was doin' well," chuckled Cousin Curtis in Mis' David's ear.

"Now the carpet's a-goin'," some one said, eagerly.

"No, no, no, Cousin Curtis, not the carpet. I don't know what I was a-thinkin' of to catilate I *could* part with that," said Mis' David, seizing her relative by the arm. "Poor David that's gone 'n' me 'n' Mary Frances picked it out, 'n' David he alwus liked the pattern, 'n' we used to sit in the parlor hot summer Sundays—'tis always cool there—'n' enjoy it. Oh, don't let anybody git that! Bid higher'n anybody *could* pay for it."

Cousin Curtis looked somewhat contemptuous, but followed her directions, to the hot indignation of several ladies who had long coveted this possession of Mis' David's.

An arm-chair that Mis' David never liked, and no one could sit back in comfortably, she allowed to be sold, also a large black-walnut-framed mirror, with some compunctions, to be sure, because they were gifts from Mary Frances.

"But not the lounge—not the lounge, Cousin Curtis. Why, he sot more by that 'n anything we ever had, though he didn't use it much; 'twas only to look at it thet pleased him so, it bein' all flowered over in sich harnsom colors."

"What d'you have an auction for, if you don't want ter sell nothin'?" snapped Cousin Curtis. "Joe'll think you ain't satisfied with what your stuff brings, 'n' goodness knows you've got full what its wuth, so far."

"The Lord only knows what I hed the auction for," said the poor woman, devoutly. "But never mind what Joe thinks, he'll git his pay jest the same."

The auctioneer, with the crowd pressing after him, was in the sitting-room now, and standing beside David's old mahogany secretary, demanded a bid for that ancient but well-kept piece of furniture.

Mis' David started. Why, it seemed to her as if she could see David sitting before it now, laboriously intent on writing a letter, with Mary Frances looking over his shoulder and the cat asleep in the window beside him, the glow of the fire-light filling the room. She could hear the click of her own knitting-needles, and the snapping of the logs in the still, peaceful atmosphere. She rose from her seat: "No, no, no! not that," she cried. "You mustn't be affronted with me, folks, nor think I meant to git ye here fur nuthin'. I didn't think this business was a-goin' ter ketch hold o' me so, but I can't part with any more o' my things. They're jest like live things speakin' to me o' days past 'n' gone. I'm a poor old woman, 'n'—" Here her voice faltered, and she fell back against Cousin Curtis's shoulder in a dead faint.

A general panic ensued, for it was supposed by all, with the exception of the little circle around her, that the old lady was dead. "Poor soul! it broke her heart to think o' breaking up her home," they said. And with the greediest and most disappointed of them pity was uppermost, as, after blocking up every door and passageway until they were peremptorily ordered away by the doctor, who was present, they reluctantly took their departure.

Mis' David was conveyed into her bedroom, where, the needful restoratives being applied, she soon recovered consciousness.

"I shall hev to write a word ter Mary Frances as soon's I'm able," she said, after swallowing a great deal of hot beef tea, which is the panacea for every woe at Perimport. "I shall never leave this house as long's I live 'n' hev my senses, 'n' I must let her know, ez she was a-goin' ter meet me at the depot in Springvale to-morrer night. I know I can manage some way not ter be beholden ter my neighbors. I can hev that left-handed boy back agin anyway; 'n' even he, with all his outlandish actions, is better'n sellin' away yer house 'n' home. He'll only wear me out a little sooner, 'n' when folks hev ter live alone, the sooner they go the better."

"I sh'd like to know what yer goin' ter do with the man you let the farm to. 'Tain't nothing ter go back on your word, I s'pose," said Cousin Curtis, wrathfully.

"I can very well pay him for his disappointment. I jest got the pay for some wood I sold last winter, 'n' he's welcome to it," said Mis' David, cheerfully. "I'll pay him enough to pay for another farm for a year, if he says so."

And Cousin Curtis left, muttering something about "ingratitude, 'n' imbecile old women."

Some one entered by the door which he opened to go out—a young lady, very daintily dressed, followed by a tall, smiling young man.

"Why, Aunt Emmeline, what *does* all this mean?" the young lady inquired, looking with amazement at the empty closets and crockery-piled tables.

"Why, it means, Flory, that I tried ter do what you advised me ter do so strongly—let the place, 'n' sell out my furniture. But the spirit was weak, 'n' I couldn't do it. How happens it you're here with Frank?" And Mis' David, sitting up on the lounge, looked ten years younger.

"Why, aunt"—hesitating a little—"Frank and I were married this morning. I had to marry him, you see"—with a roguish glance at her husband—"I got so worried about leaving you alone. Why, you poor dear old soul, you look as if you had been very ill."

"I'm well enough now. But what about the Adam's apple? You said you couldn't hev him on account o' that, nohow."

Flora burst into laughter. "Oh, aunt, you didn't think I meant that really. Why, he hasn't any to speak of. We had a misunderstanding, you see, and I felt almost desperate. I urged you to sell everything, and go and live with Mary Frances, because I felt that was the only thing to do. I thought I should always be obliged to teach school, for I knew I could never marry any one else, and—"

"Only a foolish young folks' quarrel, I s'pose," interrupted Mis' David; "'n' I took it for the finger o' Proverdence a-p'intin' the way to Mary Frances's. But, ye see," she added, seriously, "Proverdence p'inted straight enough, but I was too impatient, 'n' didn't wait till I got composed in mind, 'n' see it clear. It's jest like that kinder blurred guidepost round the corner out there by the four roads; if ye git in a hurry 'n' don't wait till ye git so's ter read it plain, you're more'n likely to turn off the wrong way.

SUSAN HARTLEY SWETT.

"LA CHAMPAGNE" AMONG ICEBERGS.

The latter half of the month of January, 1890, will long be memorable in the annals of marine disaster, for rarely has there been such tempestuous weather on the Atlantic, accompanied with such wide-spread destruction of life and property. Furious hurricanes and tremendous seas tested the stanchness of the most powerful transatlantic steam-ships, and tried the skill and endurance of both officers and men to the utmost; men were washed overboard, while others were seriously hurt by falling top-hamper, or had their hands and feet frost-bitten by the piercing cold, which covered the rigging and decks with thick ice; and in some places the sea was covered for miles with dead cattle, smashed life-boats, and wreckage of every description.

During the past week, while the rigor of the weather had somewhat abated, most of the captains of storm-tossed vessels had stories to tell of vast fields of ice floating down from the north in the direct path of transatlantic steam-ships, and several icebergs of mounster size had been sighted by incoming steamers. One steam-ship, the *Nessmore*, from Baltimore to Liverpool, actually ran into one, but fortunately escaped with no other injury than some damage to her bows. The Inman liner *City of Chicago*, which had an exceptionally hard time of it, entered an immense ice-floe at 10 P.M., January 23d, and did not pass through all of it until three o'clock the next morning. The *Adriatic*, of the White Star Line, and one or two others, had a similar experience; they were for hours thumping their way through ice packs, and had their decks swept of everything movable by the heavy seas which were running outside and west of the floes.

But the steamer *La Champagne*, Captain Boyer, of the French Transatlantic Line, seems to have had the most unique, if not the most unpleasant, voyage of all. Leaving Havre on January 18th, just in time to catch the heavy northwest storm which had damaged many vessels before it reached her, for the first few days *La Champagne* was buffeted about in merciless style; her decks were continually being swept, her rigging was heavily ice-coated, and her deck railings damaged, but, with the exception of the loss of her life-boats, she sustained no great injury. The storm somewhat abated by the 23d, after which she made her way through a series of alternating calms and violent squalls, accompanied by chopped seas, that sadly tried the patience of passengers and crew, until the 25th, when her people were treated to a display of nature's handiwork which they are not likely to forget as long as they live. On that day the weather had greatly moderated, and the passengers were beginning to resume their long-suspended cheerfulness, when, at 3.15 P.M., in latitude 45° 45', and in longitude 49° 50' (west of Paris), a genuine iceberg of the much written about but seldom seen sort was sighted, and within two hours two others, surrounded by ice-fields several miles in extent, made their appearance. The captain, who made observations, estimated the largest of the icebergs to be about 200 feet in height above the water-line, with a breadth of much greater extent. Happy for him and his good ship that he did not have to repeat the memorable feat of the *Arizona*, when she ran full tilt against just such an antagonist in the spring of 1879, or, more recently, of the *Nessmore*.

The French steamer passed slowly through the heaving ice pack to the right of the icebergs, one of which presented the appearance of a moderate-sized island, with a gently sloping surface; and the other, the tallest of the three, looking like a pinnacled church steeple from one of its fronts.

The passengers of *La Champagne* had every opportunity of studying the rapidly changing effects of light and shade on the summit and precipitous sides of the icebergs, and were, one and all, entranced by the magnificence of the spectacle. After ploughing her way through the ice packs, *La Champagne* had fine weather during the remainder of her voyage, arriving off Sandy Hook at 6.32 P.M. of the 27th, two days behind time, but with all on board safe and sound, after their varied and exciting experience of old ocean's humors.

THE SEVENTH REGIMENT'S CUP.

The "Edward Kemp Trophy," presented last spring to the Seventh Regiment as a standing annual prize to be awarded to the company of that organization exhibiting the best marksmanship, was won for the first time by Company B in the match which closed January 24th. The victor's score was 1053 out of a possible 1250. Company F came second, with a score of 1011. A picture of the beautiful prize is printed in this issue of HARPER'S WEEKLY. The arrangement is that it shall be shot for in the armory during a contest extended through two weeks of every January by teams of twenty-five men selected from the companies respectively. The winning company is to enjoy the honor of possession of the prize until the next tournament. The general and enthusiastic interest taken by the regiment in the late match indicates that the gift will prove a valuable stimulus to increased skill on the part of all the members.

The trophy is a silver and gold horn of rare and peculiar workmanship. Only three cups of the same design are in existence. One is in the possession of the Duke of Oldenburg, by whose name all three are known; another is in Rosenberg Castle; while the third has found its way hither from Copenhagen, having probably been purchased, according to the statement of the United States Consul at that city, just in time to prevent its passing into the hands of the Czar of Russia. The price paid for it was 4300 Danish crowns—about $1100. The donor, Mr. Edward Kemp, of the firm of Lanman & Kemp, of this city, is an old member of the Seventh Regiment, having joined it thirty-five years ago, and served in it long and faithfully. Though no longer an active militia-man, he is one of the trustees of the armory fund, and retains a warm interest in the organization—a fact well testified to by his gift.

The horn stands in a glass case on an ebony pedestal. It is about fourteen inches high, has a silver body overlaid with gold ornamentation, which is judiciously relieved by colored enamel. The work is very elaborate, and is said to have occupied the goldsmith who executed it nearly five years. The general design is that of a mediæval stronghold. It abounds in battlements and turrets, gold figures of knights in armor—some of whom are on horseback—ladies with musical instruments, attendants, etc.; spaces otherwise unoccupied are filled in with representations of dragons and other fabulous beasts, coats of arms, and inscriptions in German text, one of which is an invitation to empty the horn. The multiplicity of its details suggests the Milan Cathedral. The whole is thoroughly expressive of the age of chivalry. The Seventh Regiment has a capacious and finely equipped armory, befitting the high character of the organization, but the most attractive object now in it is this German drinking-horn.

THE TORPEDO-BOAT "CUSHING."

It was a happy thought which gave the name of *Cushing* to the first sea-going torpedo-boat of our new navy. The brilliant achievements of that young officer in the war of the rebellion asserted practically, and for the first time, the value of the weapon, and to this day Cushing's deeds are quoted as the last word by those enthusiasts who declare with Gabriel Charmes and Admiral Aube that "a squadron attacked by a torpedo-boat is a squadron lost," and that for evermore "the microbe will destroy the giant." But fortunately for amiable sailors who prefer square up-and-down fighting (yard-arm to yard-arm or turret to turret) to being hoisted with petards engineered by scientists from a safe distance, these boasts were found to have issued in an idleness begot of inexperience; and at present the type—like the ram, the automobile torpedo, the submarine boat, the rapid-fire and machine gun—falls into its class as an auxiliary and not the essential of sea-fighting.

This classification did not result from any jump at conclusions, for the enthusiasm of individuals spurred admiralties into such a gallop of experiment that the type was afforded more than an average chance. In the end, however, the torpedo zealots had to abandon the idea that any boat, even as an auxiliary, could be made a perfect instrument, and so they were grouped into two classes, which were differentiated by demands of speed, offensive power, coal endurance, and habitability. The first list embraced such as could keep the sea independently; the second, those that could be carried on shipboard and be launched when occasion demanded. In the earlier boats of the first class, to which broadly the *Cushing* belongs, dimensions and strength were so much sacrificed to speed that their history is a record of failure and repairs. The second-class boats could not carry coal enough to operate at any distance from their base, and were forced, like spinsters' cats, to scurry homeward whenever anything but the smoothest weather was experienced. But, with all their faults, the idea was too good to be scouted, and experts agree that boats capable of keeping the sea in all weathers with reasonable safety and comfort will be invaluable aids to sea warfare. As a minimum, the length is to be 130 feet, and the displacement 100 tons.

Notwithstanding this expert uncertainty, the last administration submitted the plans of a first-class boat to home competition. The Herreshoff Company received the contract, and on January 23d the *Cushing* was launched. The new boat is of the twin-screw, deep-sea type, and has the following dimensions: length, 138 feet; depth, 10 feet; breadth, 14 feet 6 inches; mean draught, 3 feet 7 inches; displacement, 90 tons. The boilers are multi-tubular; the engines are five-cylindered, quadruple-expansioned, and the estimated horse-power is 1600. The trial will be a run for three consecutive hours with a weight on board of 15 tons. A bonus of $1500 is added to the contract price of $82,750 if the mean speed exceeds 22 knots, but should this fall below that rate, a penalty of $4000 is exacted; if 20 knots are not attained, the boat may be rejected. But as an incentive, upon which we may congratulate Mr. Herreshoff at once, $2000 is to be paid for each quarter of a knot above 23 knots. The armament is not as yet definitely settled, but it will probably consist of three torpedo tubes and three rapid-fire guns. There are 11 water-tight compartments, the vitals are coal-protected, the interior is electrically lighted, and the two conning towers carry search lights.

The vessel was built under the supervision of Commander Converse, United States navy, and the command has been given to Lieutenant Cameron Winslow. Her performances will be watched with the greatest interest, because, as emphasized in these columns last July, there is, in the great problem of coast defence, no other country to which, from geographical opportunities, torpedo boats can be of such paramount importance.

J. D. J. K.

STRUCK GAS.

Not only have the two gentlemen shown in the illustration on page 108 as trying to remove their drilling tools from the well that has suddenly proved itself a "roarer" struck gas, but the whole world has struck it. That is to say, the rapid and successful utilization of natural gas within the past few years has convinced the world of the vast superiority of gaseous over solid fuel for both manufacturing and domestic purposes.

That the supply of gas stored beneath the earth's surface is limited, and will ultimately be exhausted, does not admit of question. How long will the supply last is the only subject for argument. Still, whether it comes to an end soon or later, natural gas has already performed an invaluable service for mankind, and taught the world a lesson it will not forget.

That those who have used a gaseous fuel would not willingly return to a solid is established beyond doubt; and that, with the failure of natural gas, they will demand an artificial substitute, is equally certain. In view of this, experiments directed toward the artificial production of cheap gas are now being conducted in many directions. They are backed by generous capital, and have already attained such a degree of success as to enable consumers to anticipate the exhaustion of their natural supplies without anxiety. The artificial gas men are even beginning to advance the claim of those who manufacture ice, that they can do the work more economically than nature herself.

Natural gas is no new thing. For untold ages its burning springs have attracted the fear, the adoration, or the curiosity of all countries. In our own, it periodically accumulates in certain localities just beneath the surface of the ground in such quantities as to cause eruptions similar to those of volcanoes. In fact these outbursts receive the name of "gas volcanoes."

As early as 1821 natural gas was used to illuminate the village of Fredonia, in western New York, and in a small light-house on Lake Erie. In 1841 gas was struck in boring for a salt well in the Kanawha Valley, West Virginia, and when salt-water was also found, the gas was utilized as a fuel under the evaporating pans. Although this is the first recorded use of the new fuel in this country, it had been discovered and allowed to go to waste in a well bored within the present limits of Charleston, West Virginia, as early as 1815.

Gas is almost always found in connection with petroleum, and since 1859, when the first oil well was bored in Pennsylvania, it has been used to light and heat the towns and villages of the oil region. It is the fuel that heats the boilers of the drilling engines at the oil wells, and its pressure is often sufficient to enable it even to supplant steam in the cylinders of these engines. Until recently, however, the great volume of this invaluable product has been allowed to burn or flow to waste, in some cases at the rate of millions of cubic feet per day from a single well.

The first use of gas as a fuel in iron-making was at the Leechburg (Pennsylvania) works of Messrs. Rogers & Burchfield, in 1874, while the glass-makers did not adopt it until 1883. In 1875 it was piped to Spang, Chalfant, & Co.'s iron-works near Pittsburgh; but it was not until 1883, with the introduction of gas from the great Murraysville district, that its use as a fuel in Pittsburgh assumed any importance. To-day it is almost the only fuel used there. The pall of smoke that so dominated the city for nearly a century that it had become a by-word and a reproach has disappeared forever; and the blessed sunlight now finds its way into nooks and corners where its very existence was once unknown. The only smoke now to be seen over the city comes from the tall chimneys of its river steamers and from its locomotives. Even these latter are in many instances being converted into gas burners, the fuel being carried in storage tanks that take the place of tenders.

The comfort and economy of time and labor in the use of a gaseous fuel, as compared with coal, are incalculable and almost beyond belief. There is no hauling and storing of coal; no feeding the furnace, no clearing it out and disposing of the

slag, cinders, and ashes. There is no smoke, soot, or dust in the house, no vexatious delay in kindling the fire, and no waste of time and heat in letting it slowly die down after it has been used. No kindlings need be supplied, nor receptacles for ashes.

In a kitchen an unobtrusive pipe comes up through the floor, and enters the grate of the very stove or range in which coal was formerly burned. A stopcock is turned, a lighted match applied to the burner, and in an instant the full intensity of heat required is in active operation. When the required work has been accomplished, the flame is extinguished with equal facility.

As a fuel for metallurgical purposes, natural gas leaves little to be desired. Its absolute freedom from the deleterious impurities found in all solid fuels, the intense heat generated by it, the ease with which it is handled and introduced when required, its great cleanliness, and, above all, its cheapness, render it the fuel more nearly approaching perfection than any other yet presented to the manufacturer. In iron, steel, and glass works, more than any others, has the use of a gas fuel proved advantageous, as it produces goods of a superior quality and better finish without additional labor or care.

While all western Pennsylvania may be said to contain natural gas in varying quantities, its most important gas districts are the Murraysville, in Westmoreland County, about twenty miles east of Pittsburgh; the Grapeville, in the same county, about thirty miles southeast of that city; and the Washington County district, some forty miles southwest of Pittsburgh.

The great gas region of Ohio is at Findlay, in the northwestern part of the State; though at Gambier, in Knox County, it was discovered in, and has been used since, 1874.

In New York gas is found in considerable quantities in Allegany and Cattaraugus counties, and to some extent in Chautauqua.

West Virginia contains important gas fields, as does Kentucky. It has also been found in paying quantities in Illinois and Indiana, where new manufacturing centres, the direct outgrowth of natural gas, are daily springing into existence and prominence.

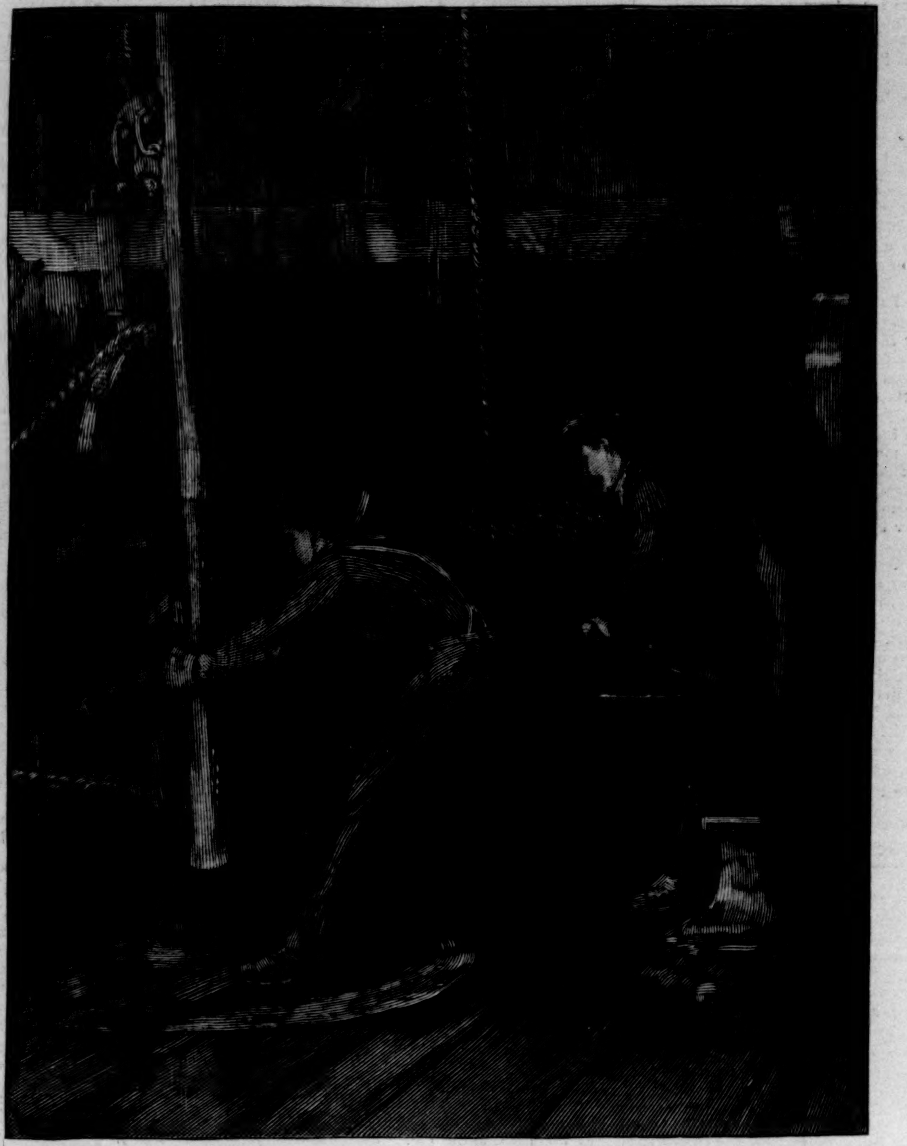
Other States and Territories in which natural gas has been discovered, and is being more or less utilized, are Kansas, Tennessee, Maryland, Alabama, Louisiana, Missouri, Iowa, Colorado, Dakota, Utah, Wyoming, and California.

The process of boring for gas and sinking a well is precisely the same as that for oil, and the cost is equally great. It takes from two to six thousand dollars to put down a gas well, according to the depth required and the material gone through. The depth varies from a few hundred to two thousand feet; and in most cases the deeper the well, the stronger and more permanent will be the flow of gas.

When a location has been decided upon and cleared, a derrick forty to sixty feet high is erected, and a wrought-iron eight-inch pipe is driven down through the earth until it reaches the rock, at any depth from thirty to a hundred feet. Then the great drills, weighing about three thousand pounds, are set to work. These are lifted and allowed to drop four or five feet with each stroke, and are constantly turned, so that the hole may be perfectly round and true. A diameter of eight inches is maintained to a depth of about five hundred feet, and to this depth an iron casing of that size is put down, so as to shut off the water. From this point to the required depth of the well a six-inch hole is bored, and into it a four-inch pipe is inserted.

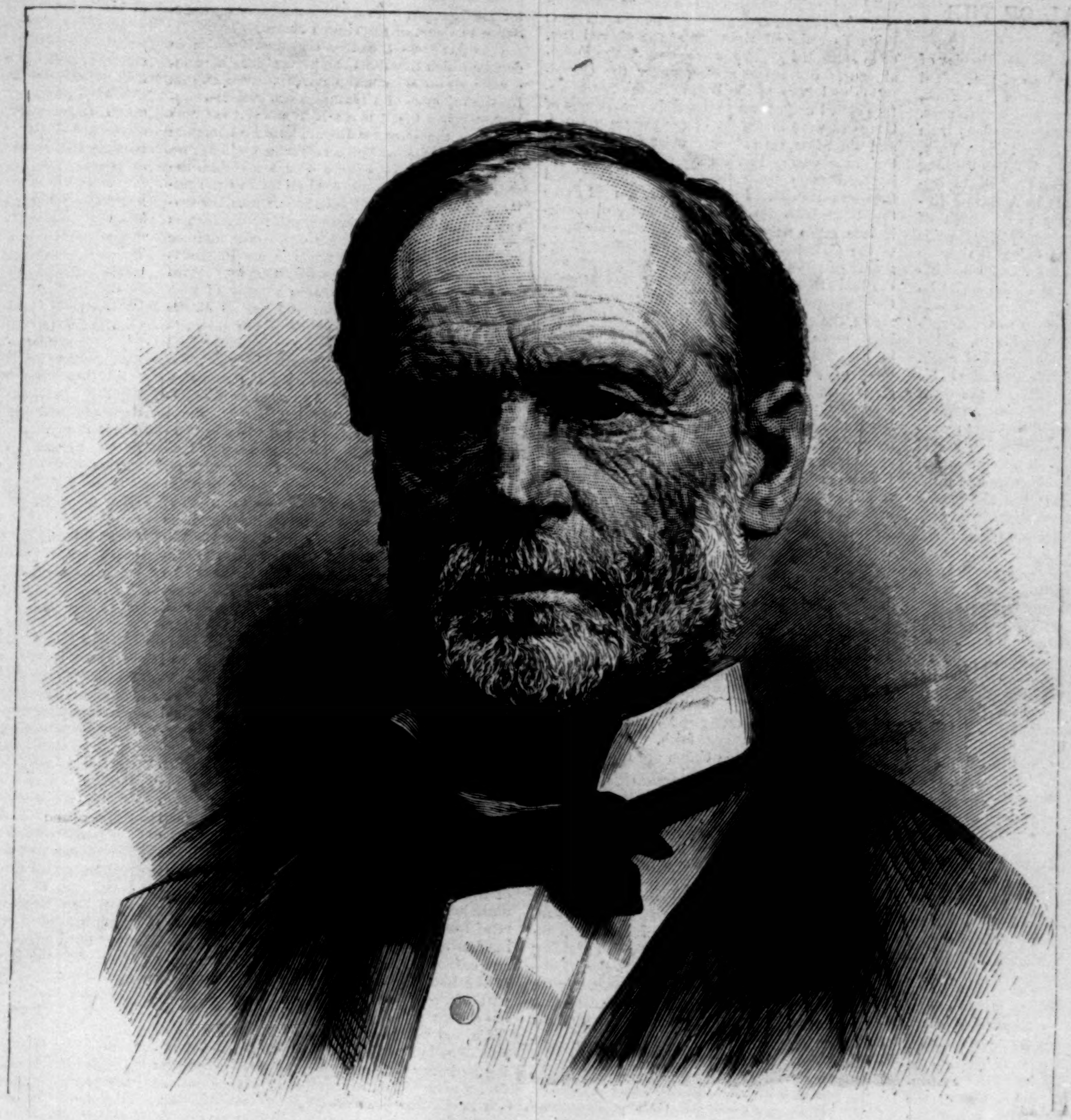
The gas usually manifests its presence and gives warning of the vicinity of a reservoir by escaping in small quantities and finding its way up through the well long before the drilling is finished. Sometimes, though, no such warning is given. The drill is quietly thumping away; one man is sleepily turning the "temper screw," while the other sharpens the tools, works the "bull-wheel" lever, or makes himself generally useful. They have been thus monotonously employed for fifty or sixty days, perhaps, and are beginning to wonder when their "tower" (tour) of work on this well will be completed. Suddenly the drill rope slackens, the heavy tools no longer strike bottom, but begin to come up out of the well, as though they were of wood buoyantly rising on top of a column of water. The slack of the rope is reeled in on the bull-wheel shaft as rapidly as possible; but before the tools reach the surface the gas rushes forth in a blue cloud, with a deafening roar that can be heard for miles. The drillers hasten to remove their tools, and with that their work is ended. They have struck gas.

KIRK MUNROE.

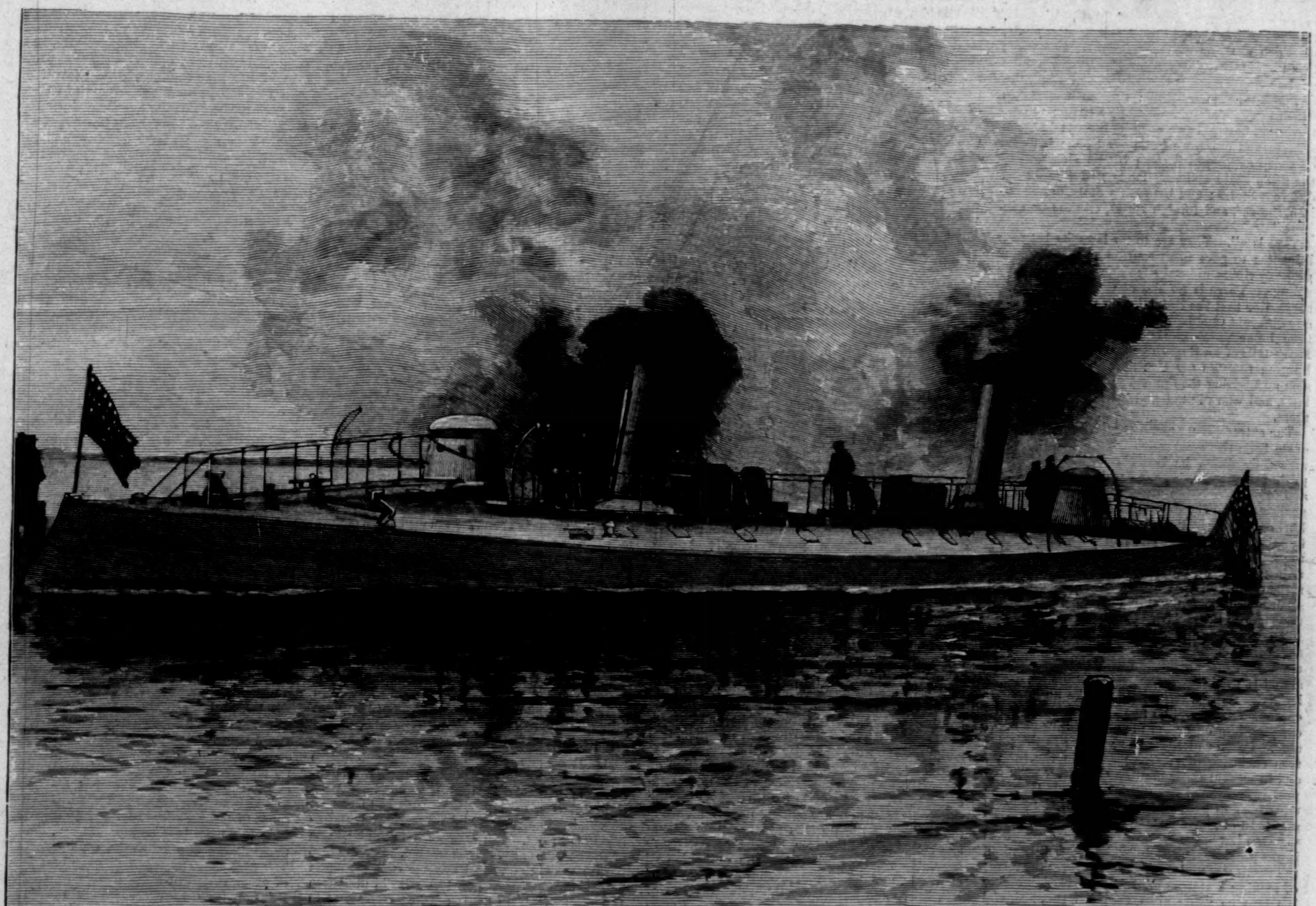


"STRUCK GAS."—DRAWN BY J. W. BEATTY.—[SEE PAGE 107.]

"LA CHAMPAGNE" PASSING THROUGH AN ICE-FIELD ON HER LAST VOYAGE FROM HAVRE TO NEW YORK.—FROM A SKETCH MADE ON BOARD BY JOHN RETTIG.—[SEE PAGE 107.]



GENERAL WILLIAM TECUMSEH SHERMAN.—FROM A PHOTOGRAPH.—[SEE PAGE 103.]



THE TORPEDO-BOAT "CUSHING," OF THE UNITED STATES NAVY.—FROM A PHOTOGRAPH BY CHILD & CO., NEWPORT.—[SEE PAGE 107.]

THE CENTENNIAL OF THE SUPREME COURT.

One hundred years ago, on the first Monday of February, 1790, the Supreme Court of the United States held its first term in the city of New York, then the seat of the infant national government. Four Judges attended, bearing commissions from George Washington—John Jay, of New York, commissioned as Chief-Justice; William Cushing of Massachusetts, James Wilson of Pennsylvania, and John Blair of Virginia, as Associate Justices. The commissions were read. Each of the judges took an oath to administer justice without respect to persons, to do equal right to the poor and to the rich, and to faithfully and impartially discharge and perform all the duties incumbent on him, according to the best of his abilities and understanding, agreeably to the Constitution and laws of the United States. John Tucker, of Massachusetts, was appointed clerk. Edmund Randolph, of Virginia, produced his commission as Attorney-General, and the court adjourned for the term.

The court thus organized has for a century exercised the most extraordinary powers ever vested in a purely judicial tribunal. It has presented an unbroken record of personal purity and intelectual power and breadth. It has not merely "administered justice without respect to persons, and done equal right to the poor and to the rich," but it has contributed more than any other agency toward the successful working and stability of the Federal Constitution and the triumph of the American experiment in government.

The centennial of the organization of the court was observed with appropriate ceremonies at the place of its birth, on Tuesday, the 4th of February, 1890. The Association of the Bar of the City of New York, the New York State Bar Association, and the American Bar Association united in the celebration. The Chief-Justice and the Associate Justices of the court, the President and his cabinet, and the Judiciary Committees of both Houses of Congress, were present, as well as some of the Judges of the highest appellate courts of the various States.

The occasion was one calling for the attention of the entire people. Every American citizen should be reminded by it of the debt which we owe to the judicial department of our national government. This is not merely a debt of sentimental gratitude and admiration, but an obligation calling for present payment, in effective legislation to relieve the court from the overwhelming pressure of duties beyond the power of man to accomplish.

The constitutional provisions relating to the Supreme Court would give a reader not familiar with the history of their application and development but little idea of the extent and importance of the court's power and duties. The Constitution provides that "the judicial power of the United States shall be vested in one supreme Court, and in such inferior courts as the Congress may from time to time ordain and establish," and that "the judicial power shall extend to all cases, in law and equity, arising under this Constitution, the laws of the United States, and treaties made, or which shall be made, under their authority; to all cases affecting ambassadors, other public ministers, and consuls; to all cases of admiralty and maritime jurisdiction; to controversies to which the United States shall be a party; to controversies between two or more States; between a State and citizens of another State; between citizens of different States; between citizens of the same State claiming lands under grants of different States; and between a State, or the citizen, thereof, and foreign states, citizens or subjects."

That is all. They are to try lawsuits between litigants; to pass upon contracts; to determine property rights and claims to damages for private wrongs. There is no hint of political power, no suggestion that the Federal courts are to exercise any different functions than those exercised from time immemorial in Great Britain. Professor Bryce tells of an Englishman who spent two days hunting through the Constitution for the provision authorizing the Supreme Court to annul bad laws, and who did not find it because it was not there.

The extraordinary powers of the Supreme Court arose from the provisions of the Federal Constitution, by which its framers sought to accomplish two results, both of which were deemed and were undoubtedly necessary to the stability of government. The first was to preserve the equilibrium of power and authority between the national and the State governments; and the second, to protect minorities and individuals against the unjust exercise of power by prejudiced and irresponsible majorities. The method adopted to secure both objects was by constitutional limitations upon the legislative power both of Congress and of the State legislatures. Thus to prevent the State and the nation from unduly encroaching upon each other's jurisdictions, the Constitution stated the subjects upon which Congress might legislate, and authorized it to make no laws except such as should be necessary and proper for carrying into execution the powers thus enumerated. Certain of these powers were in their nature exclusive of similar powers in the States, and in certain other matters the States were expressly prohibited from legislation. If Congress undertook to pass a law in excess of the powers granted to it, or if a State Legislature undertook to pass a law in the exercise of powers from which it was prohibited or excluded by the Constitution, the result was no law at all. However the forms of making a statute might be followed, however it might be voted upon, recorded, certified, and published, it was as ineffective as the resolution of a debating society, as invalid as the act of a pretended agent without color of authority.

But the only way in which it can be ascertained and determined whether a legislative act is valid or invalid, whether it is a law or waste paper, is by the action of a court passing upon some litigant's claim of right under the alleged law, or in spite of it. The jurisdiction of the Federal courts over cases arising under the Constitution and laws of the United States has therefore called upon them to determine what acts of Congress were in excess of the powers granted, and therefore invalid, and what acts of State legislatures were in violation of the limitations imposed upon them by the Constitution, and therefore invalid. In doing this, the Supreme Court has been during all the century of its existence interpreting and defining the provisions of the Constitution, the scope and effect of the grants of power to the general government, and the limitations imposed by that instrument upon the State governments. In deciding upon private rights, the court has been building up, upon the brief, terse enumeration of principles contained in the Constitution, a full and comprehensive body of public law. When it decides in a given case that A, the plaintiff, has no right to recover against B, the defendant, because the law under which A claims is in excess of the authority of Congress or a State Legislature, and is therefore void, it in effect expunges the law from the statute-books. The hand of the Executive becomes powerless for its enforcement. It affords no protection and confers no rights. Any officer proceeding under it becomes a wrongdoer, and loses as to that proceeding his official character.

Through this simple instrumentality every attempted usurpation of power by national or State legislatures has become ineffective, and each has been confined within its proper limits. Hamilton said of the old Confederation: "The treaties of the United States under the present Constitution are liable to the infractions of thirteen different legislatures, and as many different courts of final jurisdiction acting under the authority of those legislatures. The faith, the reputation, the peace, of the whole Union are thus continually at the mercy of the prejudices, the passions, and the interests of every member of which it is composed. Is it possible that foreign nations either respect or confide in such a government? Is it possible that the people of America will longer consent to trust their honor, their happiness, their safety, on so precarious a foundation?" Our avoidance of those evils, and the discord and disruption which would follow them, are due to the existence of one Supreme Court, constantly and consistently declaring and enforcing the limitations of constitutional authority.

It seems marvellous—or it would seem so were it not that daily use robs it of strangeness—that two separate governments, each sovereign within its own sphere, each having a separate and independent legislative, executive, and judicial establishment, should at the same time rule in the same territory without clashing, discord, or conflict. It indicates a wonderful perfection and adjustment of governmental machinery. We have forty-two different States, comprising over sixty millions of people. They present a great variety of climate, productions, occupations, interests, origin, and traditions. Everywhere the right of local self-government is firmly established and vigorously maintained. In each State are separate laws, separate legislatures, judges, and executives. In each State the laws and the machinery of administration differ from the laws and machinery of administration in all the other forty-one States. Yet in all there is found one Federal law, one Federal judiciary, one Federal executive, governing and coexisting with the State government effectively and harmoniously. To the accomplishment of this miracle we owe the perpetuity of our republic, and for its accomplishment we may chiefly thank the Supreme Court of the United States.

Fortunately for the American people, a worthy finisher of the work of Washington and Hamilton and Madison was found during the early days of the republic in Chief-Justice Marshall. He presided over the Supreme Court from 1801 to 1835. He was thoroughly imbued with the spirit of American nationality. He was a man of judicial genius and masterful character. He found the Constitution an outline, the subject of conflicting interpretation and varying opinion. Under his leadership the Supreme Court filled the outlines by interpretation, established its meaning, and left its great features defined and clearly understood, the imperishable bulwark of a stable and free government. The Constitution is what the Supreme Court declares it to be. How few of the men who went out in 1861 to fight for the Constitution and the Union realized how much they owed to John Marshall! It was because Marshall and Story and their illustrious associates in the Supreme Court, with unalterable conviction and unswerving patriotism, asserted and maintained by their judgments the national theory of the Constitution that when the struggle came the men of the North had the law with them, and the men of the South had the law against them. If the opposing theory had prevailed, South Carolina might have been found fighting for the Constitution, and Massachusetts fighting against it. But for Marshall and Story, Massachusetts might have been in rebellion, and South Carolina the defender of the law.

The provisions designed for the protection of minorities and individuals against the unjust exercise of power by a majority are enforced in the same way, and they are equally important. The most familiar illustrations are the prohibitions against bills of attainder, against *ex post facto* laws, against laws impairing the obligation of contracts, and against depriving any person of life, liberty, or property without due process of law. Some of these are expressly imposed upon the States, and some upon Congress. Some of them were also included in some of the State Constitutions before the adoption of the Federal Constitution; but the chief agent in their enforcement, and the example and model in that respect for all the courts of all the States, has been the Supreme Court of the United States.

It is doubtless true that the most formidable danger which threatens the permanence of democratic government is the opportunity it affords for the injustice of a tyrannical majority. Hamilton declares that "in a society under the forms of which the stronger faction can readily unite and oppress the weaker, anarchy may as truly be said to reign as in a state of nature where the weaker individual is not secured against the violence of the stronger." Madison states the reason of the danger in these words: "No man is allowed to be a judge in his own cause, because his interest would certainly bias his judgment and not improbably corrupt his integrity. With equal, nay, with greater, reason a body of men are unfit to be both judges and parties at the same time; yet what are many of the most important acts of legislation but so many judicial determinations, not, indeed, concerning the rights of single persons, but concerning the rights of large bodies of citizens? And what are the different classes of legislators but advocates and parties to the cause which they determine? Is a law proposed concerning private debts. It is a question in which the creditors are parties on one side and the debtors on the other. Justice ought to hold the balance between them. Yet the parties are and must be the judges; and the most numerous parties—or, in other words, the most powerful faction—must be expected to prevail." De Tocqueville wrote: "If ever the free institutions of America are destroyed, that event may be attributed to the unlimited authority of the majority, which may at some future time urge the minorities to desperation, and oblige them to have recourse to physical force. Anarchy will then be the result, but it will have been brought about by despotism."

The American people, in the constitutional provisions above quoted, have established a safeguard against the possibility of their own injustice, by declaring certain great principles of justice as a law to themselves, and by incapacitating themselves from breaking this law, except through so long and general a course of constitutional amendment as to make it certain that in the mean time passion will have cooled and principle will have reasserted itself. It is the expedient of Ulysses, who had himself bound to the mast until he should be beyond the sound of the sirens' song. But a declaration of principles is ineffective except as it is interpreted, applied, and enforced by the courts. And it is the glory of the Supreme Court that it has given to this part of the Constitution, which otherwise might have been but a rhetorical flourish, the living force and power of an accepted and respected rule of action. It is chiefly due to the commanding authority and leadership of that court that to-day every bill introduced into Congress, or into any Legislature of any State, is before its passage submitted to the most rigorous test of conformity to the great principles of natural justice declared in the Constitution and essential to the preservation of free government; and that American majorities have learned to see with composure and submission their own wishes frustrated when declared to be in conflict with those principles, no matter what may be the prejudices and the passion of the hour.

This method of restraining the dangerous tendencies of democracy by the declaration of great principles, under the form of constitutional limitations, enforced by an independent judiciary, is the chief contribution which America has made to political science. It is the feature which more than any other—more than all others, in our system, elicits the admiration of political thinkers. It is the chief occasion of the gratitude which we owe to the Supreme Court of the United States, and its maintenance and protection at the hands of that Court should be the subject of especial solicitude in our future. Not the tumultuous expression of prejudice and passion to-day or tomorrow, as to particular measures or particular men, but this impersonal declaration of principle, embodied in constitutions made for all men, in all states, for all time, is the true *vox populi*, which is *vox Dei*. When that voice is no longer heard our liberty will be at an end. The Supreme Court is its oracle, and to preserve the efficiency, independence, and dignity of that tribunal is of vital importance to the whole American people.

National growth has brought us to a point where some legislative action is necessary, not merely to relieve the court from an unfair pressure of duties, but to secure its continued efficiency. Since 1790 we have grown from seventeen States to forty-two, and from four millions of people to over sixty millions. This growth had been accompanied not only by an enormous increase of wealth, but by a corresponding increase in the variety of occupations and of enterprise, in activity, in communication between different parts of the country, in new forms of property and contract relations. The demands for judicial action now are immensely greater, both in number and in variety, than they were half a century ago, and a judicial establishment which was ample then is totally inadequate to perform corresponding duties now. But little change has been made in the Supreme Court since its organization. It originally consisted of a Chief-Justice and four Associate Justices. In 1807 it was declared to consist of a Chief-Justice and six Associate Justices. In 1837 it was made to consist of a Chief-Justice and eight Associates; and so it stands to-day. In the mean time the business of the court has steadily increased. For the first twenty years the annual average of cases upon its calendar was less than 100. It did not reach 150 until after 1843. It reached about 200 in 1847, 300 in 1858, 600 in 1870, 1000 in 1876, and 1200 in 1880. There were 1248 cases upon the calendar for the October Term of 1889. A committee of the American Bar Association, in 1882, computed that the average annual additions to the calendar for the eight preceding years were 425, and the average number of cases disposed of annually were 360. It is universally conceded that the court has reached the extreme limit of effective work in disposing of 360 cases a year. The time and labor of listening to arguments, examining records, briefs, and authorities, consultation, and writing opinions, make it impossible to dispose properly of a greater number of cases.

One result of this state of affairs is that it now takes more than three years to reach a case after it is placed upon the calendar. This in many cases is a substantial denial of justice. The evil is growing worse every year. It is, of course, exceedingly disagreeable for the Judges of the court, and it is exceedingly injurious to the interests of the people. Various plans for relieving the situation have been agitated during the past ten years. The two principal plans were formulated in bills introduced in Congress nearly ten years ago. One provides for dividing the court into several sections, and having these different sections sit at the same time, in different rooms, and each hear and determine causes by itself, with a provision that if any section shall consider any cause coming before it to be of sufficient importance, the whole court shall sit together to hear and determine that cause. This plan was contained in a bill introduced in the Senate by Senator Pugh, of Alabama, and in the House by Mr. Manning, of Mississippi.

The other plan provides for the establishment of an intermediate Court of Appeal in each circuit, to review the judgments of the present Circuit and District courts, and would limit the right of appeal to the Supreme Court from this new tribunal substantially to cases of large amounts or special importance, and to those of purely Federal cognizance, such as cases arising under the Constitution and laws of the United States, and under its admiralty jurisdiction. This plan was embodied in a bill introduced in the Senate by David Davis, and in the House by Mr. Payson, of Ilinois, and also in a somewhat similar bill introduced in the House by Mr. McCook, of New York, and said to have been prepared by Judge Blatchford and Judge Benedict. Lawyers and legislators are divided as to the merits of these plans and of the various modifications which have been suggested. As a natural result nothing has been done. Nothing probably will be done until aroused public opinion supplies Congress with the force to overcome the obstacle of simple indecision.

I have thus dwelt at considerable length upon the vital importance of the Supreme Court decisions upon constitutional questions, because it gives point to another and paramount reason for prompt and effective action by Congress. There are several branches of the court's jurisdiction which are of very little public importance. In most cases between citizens of different States the controversy might as well be determined by the courts of the States themselves. The Philadelphia Law Association in 1883 examined, and tabulated with reference to the grounds of jurisdiction, 739 cases, comprised in the Supreme Court reports from volume 99 to 105 inclusive, and they estimated that in 266 cases—over thirty-four per cent. of the whole number—the Federal courts took jurisdiction upon the ground of citizenship only—that is to say, the Supreme Court was required to hear the case solely because the plaintiff lived in one State or country, and the defendant in another. It is probable that in not more than an insignificant fraction of these 266 cases would there have been the slightest prejudice or failure of justice if the suits had been tried in the State courts. Most of the cases were from New York, Pennsylvania, and Illinois. There is not the least ground for the supposition that the citizens of all those States do not stand upon an equal footing in the courts of each. With rare exceptions, it is of no public importance whatever that such cases should be heard in the Federal courts.

The same is true of appeals from the District of Columbia and from the Territories. This was of no special consequence so long as the Supreme Court could do all the work laid before it. Now that it can do only a part of its work, we are confronted by the fact that it is compelled, taking its calendar in regular order, to hear and decide these cases of no public importance whatever, which any other court could hear as well, and to leave undetermined and unheard cases arising under the Constitution and the laws of the United States, which are its peculiar province, which no other court can determine, and the determination of which is vital to the public life. The court should promptly be relieved in a great measure of one class, in order that it may discharge its most important duty to dispose of the other.

The court to-day is worthy of its past. Two of its members, Judges Miller and Field, hold their commissions from Abraham Lincoln. Judge Bradley was appointed by General Grant, Judge Harlan by President Hayes, Judges Gray and Blatchford by President Arthur, Judge Lamar and Chief-Justice Fuller by President Cleveland, and Judge Brewer by President Harrison. The character of the court has always been so high, its powers are so great, and its position so conspicuous, that there is no act in his public life to which an American President brings a deeper sense of responsibility and a more earnest solicitude to do the best he possibly can, than to the appointment of a Justice of the Supreme Court. The present court represents the best judgment of every President since Buchanan (except Garfield), and its members justify the judgment. The great duty of keeping ever living the mandates of the Constitution is safe in their hands. But we must secure to them the opportunity to perform that duty. We must protect them

from the unfair pressure of more work than can be done, and we must prevent them from being engrossed, perforce, by the mass of common litigation. We must see to it that they are not kept discussing tithes of mint, anise, and cummin to the exclusion of the weightier matters of the law.

ELIHU ROOT

A FANCY.

ONCE, wandering o'er untrodden fields,
Far from the bustle of the town,
Bound by the spell which fancy wields,
I climbed a hill, and looking down,
Saw, in the valley far beneath,
A darksome wood, where oak-trees tall
Swayed in the south wind's gentle breath,
As throbbing bosoms rise and fall

But when I reached the vale, alas!
And on the very border stood,
A mighty hedge I could not pass
Grew all about the tempting wood.
I caught within the golden ray
Of buttercups. The rippling trill
Of brooks and fountains in their play
With bird-songs seemed the wood to fill.

And, as I listened, on the wind
There came a voice, as one who sings:
"Oh, mortal, leave the world behind,
And scale the hedge on fancy's wings.
Be bold; thou standest on the edge
Of that enchanted fairy-land.
Thy doubts have raised the mighty hedge.
'Twill vanish now at thy command."

I sighed, as one who doubts his dream.
I saw the thorny hedge grow less;
And fainter grew the mystic gleam;
The hedge passed into nothingness.
The mist of eventide arose,
Within a barren vale I stood.
The day was sinking to its close—
There was no dim enchanted wood.

FLAVEL SCOTT MINES.

COLUMBIA COLLEGE.

THE installation of the Hon. Seth Low as President of Columbia College took place on the morning of Monday, February 3d, at the Metropolitan Opera-house. The audience which filled this great theatre was one of the most distinguished companies ever brought together in New York. Presidents and professors of the leading colleges and universities, representatives of the National and State governments, and men and women eminent in the professions and society of the country, beheld with the greatest interest an event so liberal in its pledges of future benefits to the public through the cause of education.

The exercises were opened with prayer by the Rev. Dr. Cornelius R. Duffie, the chaplain of the college, after which the Rev. Morgan Dix, S.T.D., D.C.L., addressed the President-elect on behalf of the trustees. The installation address was made by the Hon. Hamilton Fish, the venerable chairman of the Board of Trustees. On behalf of the faculties, Professor Henry Drisler, who, since the death of the late President, Dr. Barnard, has been the acting President, welcomed Mr. Low to his work as the President of the college; and Frederick Coudert, LL.D., presented the felicitations of the alumni. To these distinguished men the new President made in turn brief but appropriate replies; and having received the keys of office, he then delivered his formal inaugural address. The benediction was pronounced by the Rt. Rev. Henry C. Potter, D.D., LL.D., Bishop of New York.

The friends of the higher education in this city will unite with the immediate constituency of Columbia College in believing that the ceremonies of this day, while marking no revolution in the policy of the institution, do signalize the beginning of an era of far greater prosperity and larger usefulness than the college has ever yet attained. The omens attending Mr. Low's induction—the universal respect for the man, the high esteem which his business life and his eminent public service have won from the community, the cordial loyalty of the college to him, as well as his own vigor and enthusiasm, and the open-mindedness with which he assumes the office—are all of the happiest character. His addresses at the installation were eagerly awaited by many who hoped that he would outline a "policy" with regard to the future development of the college. In a noteworthy passage of his reply to Dr. Drisler, the representative of the faculties, he declared his intention to be the President of all the departments of the college, and his opposition to any plan of reorganization which should do away, as has been proposed, with the academic department—the School of Arts:

"The faculties will appreciate that as to the technical side of their work I must be for a long time a learner. I do, indeed, bring to your counsels two new and different points of view, both of which may be valuable in the work we shall have to do together. I shall bring into your meetings the experience of a man of affairs, and the point of view of the trustees. I appreciate thoroughly the importance of the questions that are awaiting the new order of things for determination. You will not expect me to-day to outline a policy. Were I to have a policy, under existing conditions, it would seem an evidence of unfitness for my post. Two points appear to me essential to the securing of the best results. We must conceive of the college as a single institution. In my view, its various schools are as much integral parts of the college as the undergraduate department itself. This suggestion is entirely consistent, in my mind, with a belief that the School of Arts, the historic side of the college, is the foundation of the whole. I believe in doing better than ever, if we can, the work that the college has been doing from the beginning. But I see no reason why this should not be so done as to co-operate with the different schools in the work which they propose to do. Whatever can be made to grow out of the old root I should expect to be strong and sound. But I do not believe in destroying the old foundation in order to rest a new structure upon an uncertain base. While I say this, I am in entire sympathy with the desire to see the college continue its development into a complete university, adapted to the largest possible service to American needs. I hold myself open to conviction as to all details."

In his inaugural address Mr. Low discussed broadly and at length the relations between the college and the city. Starting with the proposition that "there is no such thing as the world of letters apart from the world of men," he claimed for the city a unique and indispensable part in the best university education. It was fitting that Mr. Low, who has given so large a portion of his life to the study of the social and political questions of city life, should say: "An education in New York is likely to be of special value to any man who wishes to be of especial service in meeting the great problems with which our cities confront the country. To him the atmosphere of the city will be a familiar thing, and he will know, if he is a wise man, that though the powers of evil in a city are great, the powers of good are greater. Some men, as they recognize how far short the city falls in a thousand ways of what it ought to be, and see the difficulties attending all efforts at improvement, are apt to say: 'It is no use. Let us eat and drink, and after us come the deluge.' But let it not be so with you. No more spirit-stirring call ever sounded in the ears of a generation of young men than comes to the youth of New York and America in connection with the problems of this mighty city. Splendid beyond imagination in what it may be made to be, it grieves our pride and shocks our love so frequently in what it is. Columbia may bring to you all the learning of the ages, she may surround you with all the opportunities and privileges which the times will supply, but she will fail of her truest and best work if she does not send you forth into the community earnest and patriotic men.... All this, I think, the city means to the college. Let us consider now what the college means to the city. The value of the college to New York is not to be measured by the services of her conspicuous sons. Her chief and permanent value to the city lies in the constant witness she bears to the usefulness and nobility of the intellectual life, and in the work she is always doing to develop and uplift that life. Columbia College, college and university both, as she really is, holds aloft this ideal in the great city where finance and commerce show alike their good and their bad sides. In her financial management she exhibits a business trust faithfully administered without a breach for 130 years. On her educational side, she displays the splendid usefulness of money, which is received not to be hoarded, but to be well spent. She is profoundly conscious that what she is doing is but the earnest of what she may do, if New York will but make common cause with her, and enlarge and broaden and deepen her work on every side."

WHEN EVEN COMETH ON.

THE mother-heart doth yearn at eventide,
And whereso'er the straying ones may roam,
When even cometh on they all fare home.
'Neath feathered sheltering the brood doth hide;
In eager flight the birds wing to their nest,
While happy lambs and children miss the sun,
And to the folds do hurtle one by one.
As night doth gather slowly in the West,
All ye who hurry through life's busy day
Hark to the greeting which the ages tell,
"The sun doth rise and set. Hail, and farewell!"
But comfort ye your hearts where'er ye stray,
For those who through this little day do roam,
When even cometh on shall all fare home.

LUCY E. TILLEY.

THE WATER-COLOR EXHIBITION.

TWENTY-THREE years have passed since the formation of what is known as the American Water-color Society. The organization then was a feeble one. Its first exhibition took place in the following year, and the progress which painting in water-colors has made since that time is well illustrated by the 645 works that are now shown at the Academy of Design, and that constitute the twenty-third annual exhibition of the Society. To those who remember the early displays made by the organization, the high average excellence, as well as the wide variety of the works now on view, is very significant, as measuring the advance that has taken place in the aims and the methods of American workers in this medium. Indeed, as compared with the work that found favor even a few years ago, that which is to be seen at the Academy to-day shows an average degree of improvement that is not realized without recalling the past. The progress has been so gradual that it is not easily estimated, but it nevertheless exists.

There are 297 names of contributors in the catalogue this season, and it is interesting to notice in how wide a range of country their habitations are to be found. The usual variety of landscapes, figure pieces, portraits, and marines is offered to suit the taste of expected purchasers. Of the welcome visitors, the people who come to admire and remain to purchase, a greater number are usually found among the frequenters of water-color exhibitions than at the regular displays of painters in oils. There are several reasons for this. The attractive character both of the subjects and the methods of treatment, and the comparatively moderate prices at which water-colors are sold, commend them to the average picture buyer. Besides this, the aspect of the exhibition is decidedly a cheerful one, and is perhaps stimulating to the purchaser.

The absence of the Department of Etchings which has heretofore been a prominent feature of the water-color exhibitions, gives more space for the legitimate purposes of the display this year, and confines it to the galleries, without trespassing on the corridor. Of landscapes there is an excellent display, and not only are the familiar names well represented, but some new men are coming forward whose productions are highly creditable. The general tendency of workers in water-color is toward landscape, and the beginner as well as the veteran is apt to choose hill and valley and forest for subjects rather than figures. Yet the latter are not neglected. Our illustrations give some examples of excellent work from both these classes of artists. In Mr. Samuel Colman's "Looking across Country," we have a coast scene painted with charming simplicity and directness, and Mr. Jervis McEntee's "Northern Winter" suggests the delicate sentiment which so often distinguishes his work. "A Quiet Place with Ducks" is the joint production of Mr. N. Bastert and Mr. George Poggenbeek. It shows a bit of marshy country in Holland, and the work of both artists is highly creditable. Mr. C. Harry Eaton's "A Lowland River" has qualities that justify high praise. The foliage and the green banks of the placid stream are extremely well painted. Mr. J. Francis Murphy is at his best in his pensive version of nature as set forth in his "Willows," and Mr. J. S. H. Kéver shows the best results of the Dutch school of water-colorists in a charming picture, "A Warm Day." The rich tints of Mr. Leonard Ochtmann's "Woodland" will attract the visitor, and Mr. Horatio Walker's beautifully luminous "Evening" is one of the most satisfactory works in the exhibition.

The figure-painters, although not numerous, make an excellent showing this year in the exhibition. Mr. George W. Maynard's "Mermaids and Mariners" is painted with a sure and skilful hand. The freedom, buoyancy, and suppleness of the half-seen figures of the mermaids gliding through the water, and the coloring, delicate but strong, are not marred by any shortcomings. "The Heyday of Youth" is one of Mr. William Magrath's carefully drawn compositions. The figure of the dancing girl is excellent. Mr. Clark Crum's "Foster-Mother" is the work of a promising artist who is one of the many new-comers

THE EASIEST WAY'S THE BEST.

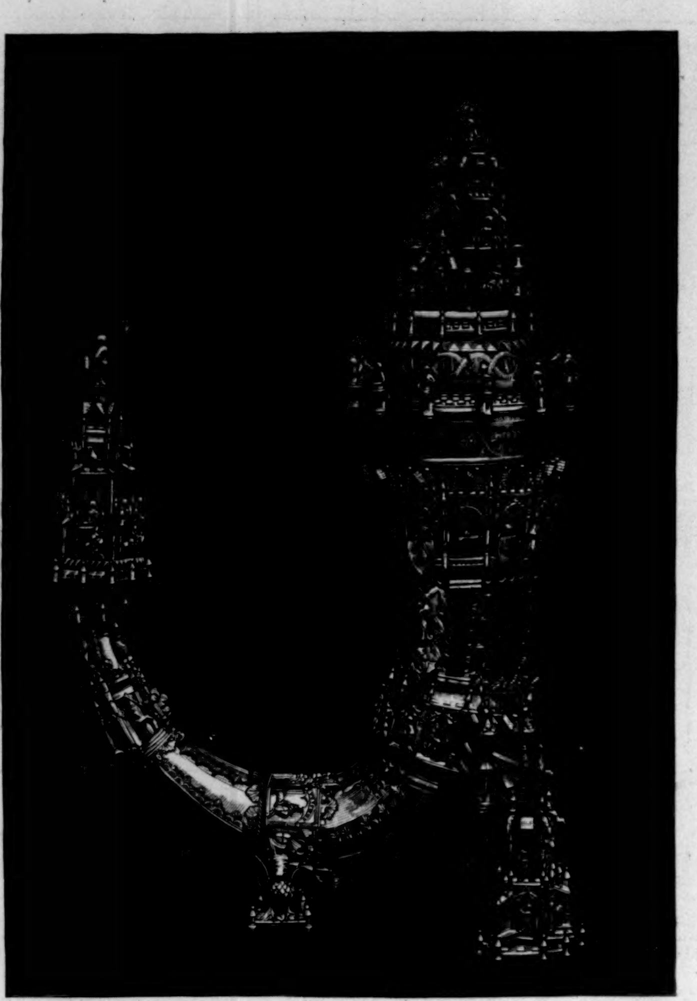
"How do, Uncle Joe? Taking your morning walk around the Park?"

"Not exactly, sah. I finds I ain't able to walk all roun' no mo' sence my las' touch o' rheumatiz', so I jus' walks *half-way* roun' an' back agin, sah."

CAUTIOUS.

SQUIRE LEEDS. "Give me a good seat in the front row?"

DOOR-KEEPER. "There's just one left. Please go in as quietly as you can, most of the audience is asleep."



THE EDWARD KEMP TROPHY, PRESENTED TO THE SEVENTH REGIMENT AS A COMPANY PRIZE FOR RIFLE SHOOTING.—FROM A PHOTOGRAPH.—[SEE PAGE 107.]

this season, and is full of expression. "A Cold Wave" gives Mr. F. S. Church the opportunity of mingling fancy with humor in an agreeable manner.

There are fewer of the conventional representations of flowers this year than have been shown in former seasons, and, altogether, the subjects are better chosen than usual. The exhibition is unusually creditable to the Society, and its members may well feel encouraged by the result of their labors.

WHY SHAREHOLDERS SUFFER.

DURING the week now closing additional proof has been furnished of the undesirability of the concentration of power in the management of a corporation. In no case have the results been satisfactory where an individual or a comparatively small number of persons have usurped the powers that are conferred upon and intended to be exercised by a larger number. In the case now under consideration, namely, that of the Sixth National Bank of this city, the President, by his ownership of a bare majority of the stock of the institution, has jeopardized deposits aggregating over two million dollars, as well as the property of his fellow-shareholders in the concern. He was tempted to do this by an offer of an exorbitant price for his shares, and though his management of the bank during a long term of years had been conservative and successful, he yielded to this temptation, and by so doing admitted a gang of thieves to the vaults of the bank, who forthwith proceeded to plunder it.

The financial situation has, most fortunately, not been seriously disturbed by the discovery and exposure of the fraudulent operations that culminated in the control of the Sixth National Bank by the most audacious adventurers that have recently demanded the attention of the public prosecutor. Those operations have, nevertheless, had some effect upon confidence not only in this country, but abroad as well. They have checked the improvement in the stock-market that was noted in this column last week, and which was still in progress when the entirely unexpected disclosures were made. Those dealers in securities who habitually favor lower prices for them made all the capital they could out of the partial looting of the Sixth National, but without accomplishing more than to emphasize a reaction that was naturally due in the market for securities.

It is generally argued in Wall Street that the events referred to should not have more than a passing effect upon Stock Exchange values, since the calamity is circumscribed, and the chief sufferer will probably be the wealthy but avaricious ex-President of the bank, and possibly the other stockholders, whose interests he betrayed. There is a broader view than this, which takes in the duties of a corporate officer, especially when he himself controls, by ownership or otherwise, the property that he is employed to manage. Enforcement of the National Banking Law will doubtless deal very seriously with ex-President Leland for his unbusinesslike, not to say immoral, abandonment of his bank, in order to increase his personal estate. It is to be regretted that the laws governing other corporations are not as stringent in their provisions for the protection of creditors and stockholders, and that, so far as they go, they are not as readily enforced as the National Banking Act, under which an office is established and maintained, namely, the Comptrollership of the Currency, the functions of which are the enforcement of the law.

The principle upon which a corporation is founded is indicated in the term itself, and the purpose the State has in view in granting extraordinary powers and privileges to a company is to secure to its citizens the benefits that can best be secured by their co-operation in various industries and undertakings. The moment that the principle of co-operation in its fullest sense is abandoned, or rather when the powers conferred are relinquished through negligence to one or two persons, or secured by them by design, trouble invariably results, and disaster to the enterprise is almost certain to follow. The temptations to abuse that power are great; and as long as human nature is constituted as it is, the number of men who can resist them is exceedingly small. Yet, in spite of repeated experiences that should make all that we are now saying seem very trite, hardly a day passes that does not furnish fresh evidence of the unwisdom of surrendering to a few the rights that should be exercised by many.

Of course every enterprise of sufficient magnitude, or of a character to require co-operation, must have a head, but under no circumstances should the head be permitted to usurp the functions of the entire body. When that occurs, confidence is sure to suffer. The ideal executive of a corporation should seek to stimulate interest and activity on the part of his associates, no matter how small their share in the enterprise may be. The practice too frequently is to take advantage of their apathy and to ignore their claims. The most signal and disastrous example of the virtual substitution of an individual for a corporation was furnished in the histories of the Northern Pacific and Oregon Companies in 1883. Within the memory of the present generation the violation of the principle under discussion extends back to the Gould-Fisk scandals in the management of the Erie Company. As before noted, the list is a long one, for it seems that in respect to these matters experience teaches nothing. A year ago this time there was a partial awakening of the stockholders of the Granger Trunk Lines that was brought about by the disastrous overbuilding of railroads, and consequent rate wars in the region west of Chicago and St. Louis and east of the Rocky Mountains. The sentiment then aroused was utilized by the larger dealers in railways and their securities, and the taste of power that they then enjoyed for the first time seems to have developed an appetite for it.

It was quite proper that the banking interest, which is responsible for the distribution of the securities of railway companies, should champion the cause of the purchasers of those securities when their property is seriously endangered, as it was in the year 1888. But the action of the Voting Trustees of the Philadelphia and Reading Railroad Company in supporting unqualifiedly the present management of that company, and the efforts of the reorganizers of the Atchison, Topeka, and Santa Fe Railroad Company to secure to its creditors the control of that system for a term of years without any adequate consideration to the stockholders, who made all the sacrifices in the reorganization, demonstrate that even the most successful and presumably most conscientious champions of security holders are capable of errors of judgment. There is only one remedy for the conditions that investors have so frequently had occasion to deplore: it is a more enlightened self-interest on the part of every shareholder in every corporation, for eternal vigilance is the price of wealth as well as of liberty.

COLLIN ARMSTRONG.

NEW YORK, Saturday, *February* 1, 1890.

FATHER KNICKERBOCKER. "Help! This is more than I can carry."

A HAUNTED HOUSE.

THIS body of ours has been likened to a tenement. It often has a haunted apartment—the stomach. Scared by the eldrich sprite, dyspepsia, digestion flies and refuses to return. What can break the spell, what can raise the ban laid upon the unhappy organs? We answer unhesitatingly, Hostetter's Stomach Bitters, and we are warranted in the response by the recorded testimony of myriads, covering a period of over a third of a century. A course of the Bitters, begun in any stage of the affliction, and persistently followed, will terminate in cure positive, not partial. The Bitters restores tone to the epigastric nerve, renews and purifies the juices exuding from the cellular tissue that act upon the food digestively, expels bile from the stomach and the blood, and promotes a regular habit of body. Malaria, kidney complaint, nervousness, rheumatism, and neuralgia give way to this medicine.—[*Adv.*]

IMPERIAL GRANUM

Is the safest, most reliable, and wholesome FOOD for Infants and Children. The most nourishing, strengthening, and delicious FOOD for Nursing Mothers, Invalids, Convalescents, and the Aged.—[*Adv.*]

MRS. WINSLOW'S SOOTHING SYRUP

has been used for over fifty years by millions of mothers for their children while teething, with perfect success. It soothes the child, softens the gums, allays all pain, cures wind colic and is the best remedy for diarrhœa. Sold by druggists in every part of the world. Twenty-five cents a bottle.—[*Adv.*]

"BROWN'S BRONCHIAL TROCHES."

FOR Bronchial, Asthmatic, and Pulmonary Complaints, "BROWN'S BRONCHIAL TROCHES" have remarkable curative properties. 25c. a box.—[*Adv.*]

WHEN baby was sick, we gave her Castoria,
When she was a Child, she cried for Castoria,
When she became Miss, she clung to Castoria,
When she had Children, she gave them Castoria.—[*Adv.*]

BROWN'S HOUSEHOLD PANACEA,
"THE GREAT PAIN RELIEVER," cures Cramps, colic, colds; all pains. 25 cts. a bottle.—[*Adv.*]

THE debilitated, weakened system needs a mildly stimulating tonic. Nicholson's Liquid Bread is recommended as such by prominent physicians. Give it a trial. Grocers and druggists keep it.—[*Adv.*]

CORNELL'S BENZOIN COSMETIC SOAP.
Prevents and cures chapped hands. 25 cents.—[*Adv.*]

BLAIR'S PILLS.—Great English Gout and Rheumatic Remedy. Sure, Prompt, and Effective. At druggists.—[*Adv.*]

No buffet should be without a bottle of ANGOSTURA BITTERS, the South American appetizer.—[*Adv.*]

DR. LYON'S PERFECT TOOTH POWDER.
Whitens the teeth and purifies the breath. 25c.—[*Adv.*]

THE Best Worm Lozenges for Children are Brown's Vermifuge Comfits, 25c. a box.—[*Adv.*]

A BEAUTIFUL young lady became so sadly disfigured with pimples and blotches that it was feared she would die of grief. A friend recommended Ayer's Sarsaparilla, which she took, and was completely cured. She is now one of the fairest of the fair.—[*Adv.*]

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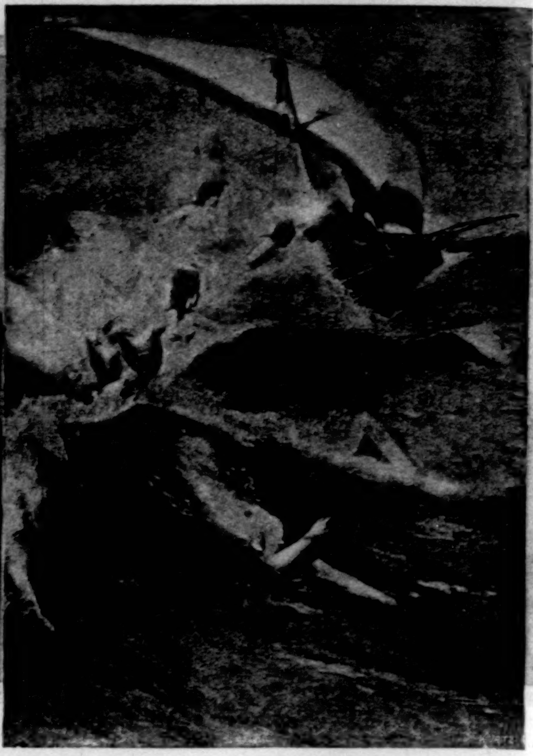

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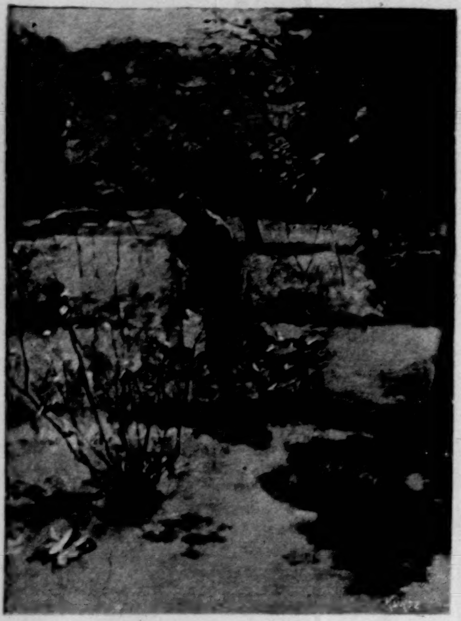

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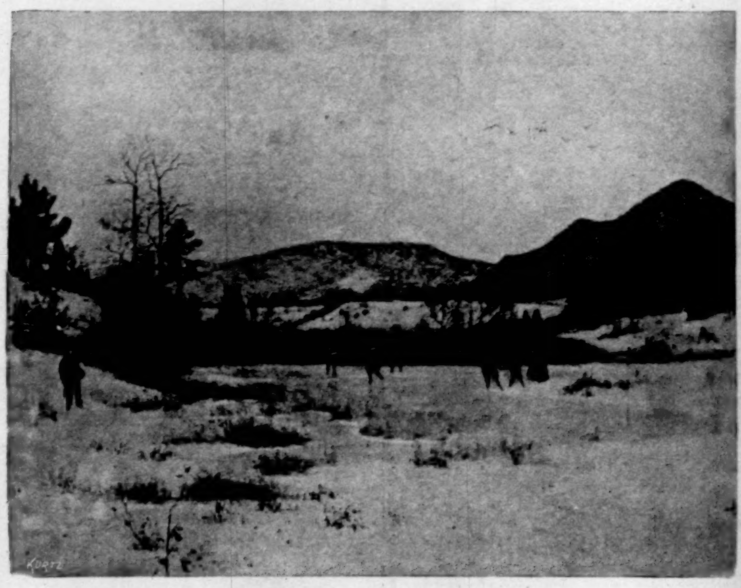

NORTHERN WINTER.—By Jervis McEntee.

AUTUMN AT LAR

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LOOKING ACROSS COUNTRY, EAST END OF LONG ISLAND.—By Samuel Colman.

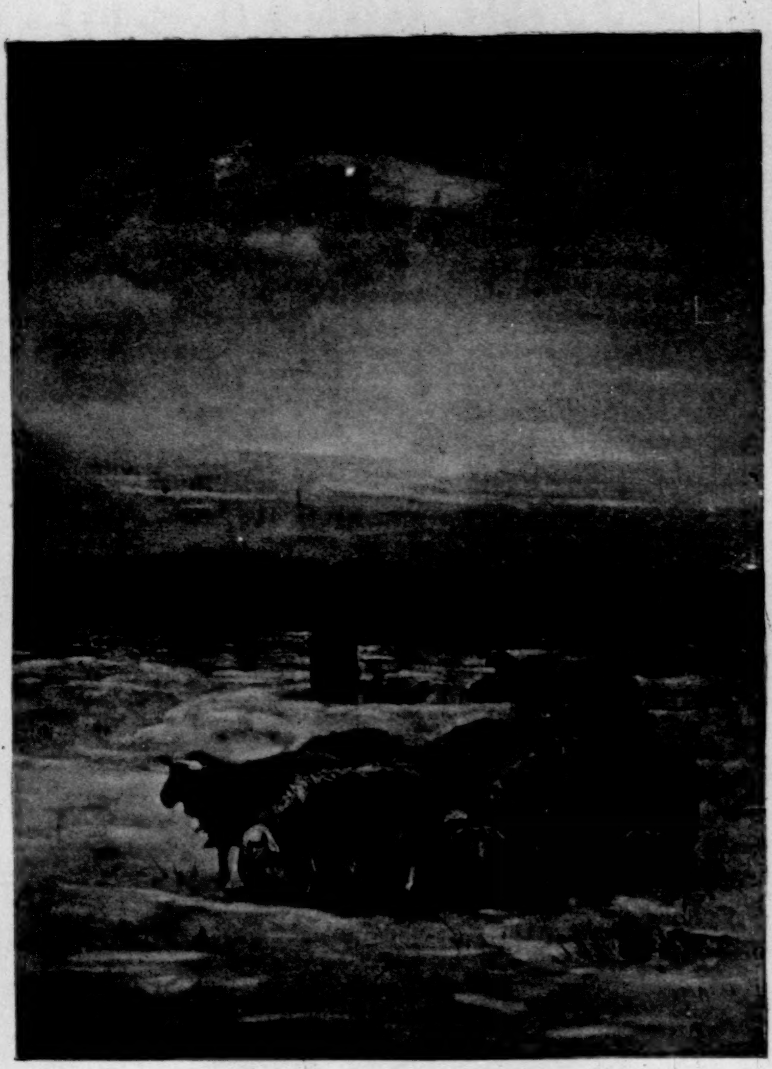
A QUIET PLACE WITH DUCKS.—By N. Bastert.

SKETCHES FROM THE TWENTY-THIRD ANNUAL EXHIBITION OF THE AMERICAN WATER-CO

UNIV. OF MICH.

OLAND IN CASCO BAY.—BY EDWARD MORAN.

A COLD WAVE.—BY F. S. CHURCH.



EVENING.—BY HORATIO WALKER.

LAREN.—BY H. W. RANGER.

SWEETHEART.—BY A. E. STERNER.

A FOSTER-MOTHER.—BY C. CRUM.

THE HEYDAY OF YOUTH.—BY WILLIAM MAGRATH.

WILLOWS.—BY J. F. MURPHY.

R-COLOR SOCIETY AT THE NATIONAL ACADEMY OF DESIGN, NEW YORK.—[SEE PAGE 111.]

HOW UNCLE SAM MAKES HIS PAPER-MONEY.

BY FRANKLIN P. SMITH.

THE handsome building of brick and iron on the corner of Fourteenth and B streets, in the city of Washington, known as the Bureau of Engraving and Printing, owes its origin to the civil war. Although it was not built until many years after that struggle, the work now going on under its roof was forced upon the government in the autumn of 1862. Previous to this date the issues of paper-money were engraved and printed by private bank-note companies in New York city. They were shipped to Washington in sheets of four notes each. After being signed by the Treasurer of the United States and the Register of the Treasury, they were trimmed and cut up, or separated, by women with long sharp shears. So slow, laborious, and expensive was the work, that Secretary Chase gave orders that it should be done by machinery. On the 29th of August, 1862, Mr. Spencer M. Clark, then Chief Clerk of the Bureau of Construction, to whom he intrusted the execution of these orders, had procured and set up in the basement of the Treasury the presses for printing the engraved signatures of the Treasurer and Register, and the trimmers and separators for making the notes ready for circulation. From this humble beginning has expanded one of the most interesting and important branches of the Federal government.

Under Mr. Clark's energetic and efficient management the bureau was a success from the first. Overcoming the great opposition that he encountered from the private bank-note companies, he constantly enlarged the operations of the establishment. It was but a step from printing the signatures on the notes to printing the notes themselves. The further step of engraving the plates in the Treasury, instead of intrusting the work to private enterprise, was easily and naturally taken. In a few months the government owned a completely equipped engraving and printing establishment, having its own engravers and printers, and its own stock of dies, rolls, and plates for the production of every form of security. Although the bureau never failed to justify its existence by turning out work much cheaper than the bank-note companies, the policy of sharing with them the preparation of the paper issues prevailed for many years. Greater security was believed to come from having the bank-note companies engrave and print the backs, while the bureau engraved the faces. Whether justified or not by experience, the policy was finally abandoned.

To such a volume did the work of the bureau grow that the quarters in the attic of the Treasury, whither it was transferred from the basement, became entirely inadequate. During the administration of Mr. Clark he proposed that a separate building, to be connected with the Treasury by a subterranean passage, be erected on the ground opposite the Albaugh Opera-house. It was not, however, until the administration of Mr. Edward McPherson that Congress was induced to make an appropriation for the purpose. With $27,000 for a site, and $300,000 for a building, construction was begun in the autumn of 1878, and completed in the spring of 1880. The bureau was immediately removed to its new quarters, where it now gives employment to more than a thousand people. At the time that Mr. Clark began operations he had only one male and four female assistants. He remained Chief of the Bureau until August 16, 1868. Since then the administration of the institution has been in the hands of George B. McCurtee (February 21, 1868, to February 17, 1876); Henry C. Jewell (February 21, 1876, to April 30, 1876); Edward B. McPherson (May 1, 1877, to September 30, 1878); O. H. Irish (October 1, 1878, to January 27, 1883); Truman N. Burrill (March 30, 1883, to May 21, 1885); Edward O. Graves (May 21, 1885, to May 1, 1889); and William M. Meredith, appointed to succeed him.

I.—THE ENGRAVING DIVISION.

The face value of the securities that the bureau produced in whole or in part from the 1st of July, 1869, when annual reports began to be made, to the 30th of June, 1888, is $13,108,606,634. The amount produced previously would probably bring the aggregate up to nearly twenty billions. How has this vast sum been made?

Most people suppose that the method is very simple; that a design is first drawn by an artist, and then engraved on a steel plate, and that from this plate bank-notes are printed. A more erroneous idea of the elaborate and complex processes required to convert a piece of blank paper into a bank-note could hardly be formed. Much time, infinite pains and patience, the highest order of artistic taste and skill, long years of the severest training, and many thousands of dollars in capital are needed to effect the transmutation.

THE BUREAU OF ENGRAVING AND PRINTING, WASHINGTON, D.C.

The most important and difficult processes are those connected with the preparation of the steel plates. This work is done in one of the largest and handsomest rooms in the bureau. The engraving division, as it is called, is located on the first floor, and runs east and west nearly the entire length of the building. Its ceilings are lofty, and an abundance of light comes in from the large double windows along the northern side. Standing in the doorway at the eastern end, near the southern side, visitors behold a long and somewhat narrow room pervaded by a silence almost death-like. At the right, seated before a bench divided into sections by green cloth partitions, are eight or ten engravers at work. Further to the west, on the same side, are the transfer presses, with their large wheels turned back and forth by operators that stop from time to time to examine or adjust their work; and beyond them are the plainly furnished offices of the superintendent. To the left, a short distance from the entrance, are the open doors of the great vaults built into the south side of the room. Here, securely kept, are the priceless treasures of the bureau—the dies, rolls, and plates made by the engravers.

These men who are bending over the little pieces of steel under the windows have consecrated their lives to a laborious and exacting art. No form of engraving is so difficult as that of bank-notes. A bank-note engraver may become a wood-engraver—his training makes easy the transition from one art to the other—but the wood-engraver never becomes a bank-note engraver; he is obliged to master almost a new art. The methods and materials of the two arts are entirely different. The wood-engraver produces his efforts by cutting away the wood and leaving the lines in relief. The surface of the block left is slightly inked, and the impression taken is the picture that he has out. The bank-note engraver pursues exactly the opposite course. He cuts his lines into the steel in intaglio. They are then filled with ink. Whatever is left on the surface of the plate is carefully wiped off, and a sheet of dampened paper is laid on and subjected to heavy pressure. The paper is thus forced down into the lines. When it is taken off, the ink is drawn out, and there is formed on the surface a cast of the engraver's work, readily detected by the touch. The white lines and spaces in the wood-engraving represent the surface that has been cut away; these features in a steel-engraving represent the surface that has been left intact. One consists of white lines on a black background, and the other of black lines on a white background. In wood-engraving every line must have a perceptible thickness, otherwise it will not print; in steel-engraving the finest scratch on the surface of the plate will make a line on the printed sheet.

The origin of this beautiful art is curious. It dates from the middle of the fifteenth century. At that period, in the early youth of modern art, the silversmiths of Florence used to ornament the creations of their genius with engraved work. To bring out the engraving, to make its contrast with the metal more striking, the lines were filled with enamel. If the effect was not the one intended, it was a difficult task to dig out the hardened substance and do the work over again. To provide against such a contingency a sulphur cast of the engraving was taken from a matrix of fine clay, and the lines filled with a black pigment. The effect of the engraving would thus be observed, and any change desired could be readily made, and no injury done to the original work. To some ingenious engraver it occurred to fill the lines of the cast with ink, and to make a copy of the engraving on a sheet of wetted paper. To all intents and purposes this was an example of plate-printing; but the discovery, accidentally made in the pursuit of a different object, was not utilized until a century later.

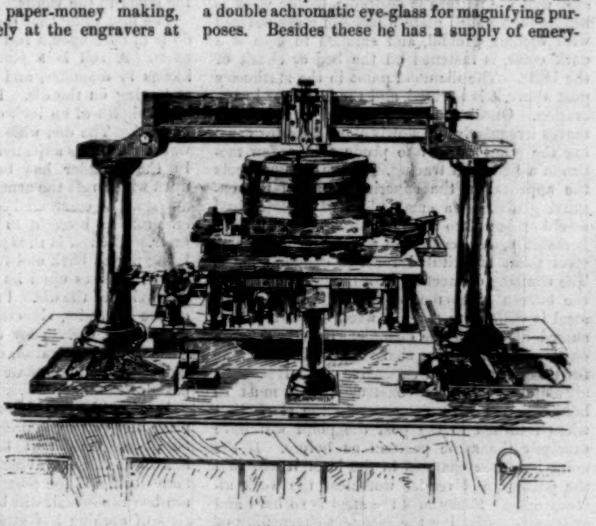
If the visitors at the door have obtained a special permit from the Chief of the Bureau, they can advance into the room. Accompanied by the guide that has been detailed to explain to them the mysteries of paper-money making, they can look more closely at the engravers at work. They now learn for the first time that no engraver ever cuts the entire plate from which a bank-note is printed. Of the several engravers employed in the bureau, one may be engaged on the design of a new silver certificate; another, on a portrait; another, on the lettering of the inscription; another, on the counters that indicate the denomination of the note; another, on a section of the border, which is never engraved in full; another, on the seal; while others may be putting the finishing touches to plates that are nearly ready to go to the printer. Nothing but this division of labor could secure that perfect execution of every part of a note that so baffles the skill of the counterfeiter. No engraver could, for instance, cut a portrait and the lettering of an inscription with equal excellence. By division of labor, which insures the high character of work that is the chief if not the only protection against counterfeiting, the bureau is enabled to limit materially the time that it would take one engraver to turn out one plate for a bond or a bank-note.

To give an idea of the work of an engraver, let us follow him in the production of a portrait. An account of the mechanical part only of this product of genius can, however, be given. That part dependent upon the taste and skill of the engraver can no more be described than the mental operations that bring forth a fine statue or a great poem. No one can tell (the engraver himself cannot tell) why a line is cut in a certain direction or with a certain curve; why it is made just so much heavier or just so much lighter than it was when first cut. But the secrets that are within the reach of all may be discovered by a study, for instance, of the portrait of Martha Washington on the one-dollar silver certificates.

First of all, let it be remarked that the portrait of a living person is never used on government securities. It was prohibited by law many years ago under circumstances not devoid of interest. On the 22d of March, 1866, Mr. Russell Thayer, of Pennsylvania, rose in the House during a debate on an appropriation bill, and offered an amendment to forbid the use of the portraits of living persons on the paper-money issued by the government. "I believe," he said, in explanation, "it is a fact capable of being well authenticated that when the first silver dollar of the United States was struck, it had upon it the image of the greatest of Americans—George Washington. When the fact came to be known to President Washington he ordered that the die be destroyed. Whoever, therefore, has a silver dollar with the head of General Washington upon it has in his numismatic collection a coin of rare value. Sir, the modesty which seems to have distinguished the public men and the public officers of that day does not, I regret to say, seem to characterize all of the public men and public officers of the present day. If I take up now what is the representative of the smallest silver coin of the United States, I find upon it—not only upon one side, but upon both sides of it, lest the people might fail to see it—the effigy not of General Washington, but of the Superintendent of the Public Printing." Although Mr. Thayer should have said the Superintendent of Printing in the Treasury, his allusion to Mr. Clark was unmistakable. While his amendment was not adopted, the fact to which he called attention led later to the passage of the law that effected the change he had in view.

By means of photography the portrait is reduced to the proper size. Upon the copy is placed a sheet of gelatine, and with a fine steel point a tracing is made. The lines of the tracing are filled with vermilion. The gelatine is laid, tracing downward, on a piece of highly polished decarbonized steel of the finest quality, the surface of which, after being cleaned with turpentine and alcohol, has been covered with a thin coating of a kind of varnish known as etching ground. It is rubbed with a burnisher, which causes the outline to be deposited on the varnish. The fine steel point comes into play again to outline the vermilion portrait upon the steel plate itself. The varnish removed, the engraver begins the artistic part of his work.

He seats himself before the section of the bench assigned to him. Just above his head at an angle of thirty degrees is a board covered with green cloth. Over the rectangular aperture in the centre is an adjustable white tissue-paper screen, by means of which the light from the windows may be softened to suit his eyes. In front of him are fixtures for electricity, to be turned on when the day is darkened by clouds or rain. He lays his plate on the leather-covered pad, and with a few simple tools produces a beautiful work of art. They consist of a graver, a steel point, a burnisher and a scraper—both of the hardest steel—and a double achromatic eye-glass for magnifying purposes. Besides these he has a supply of emery-paper to polish his tools; of olive-oil with which the plate is covered to prevent rust; of turpentine, alcohol, woollen and linen cloths to clean it; and of acid for biting-in purposes. He has also an alcohol lamp to heat his plate whenever necessary, a hand-visc to hold it over the flame, and one or two other articles to be mentioned hereafter.



THE GEOMETRIC LATHE.

At the end of six weeks or two months his task is finished except the background. If the portrait

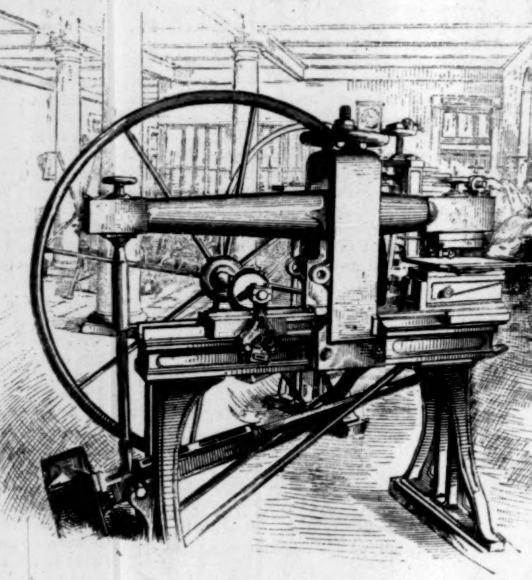
of Martha Washington be looked at closely, it will be seen that the background consists of a network of fine lines. These are not made by hand, but by the diamond point of a ruling-machine, and bitten in with acid. The plate is again cleaned, and the surface covered with etching ground, which is enclosed in a silk bag to protect it from dust. Fastened in the hand-vise, it is held over the alcohol lamp. The bag is rubbed over the surface, and the melting varnish strained through the silk. With a small roller, like a printer's proof roller, the etching ground is evenly distributed. Then adjusted to the ruling-machine, which is capable of making hundreds of distinct lines within the space of an inch, the plate is ruled with as many lines as are required. A wall of stopping-out varnish—a composition of shellac, Burgundy-pitch, and tallow—having been built around the portrait, acid is poured over the ruled surface. Wherever the diamond point of the ruling-machine has effected an exposure it eats into the plate. As soon as the engraver thinks that the lines have been bitten deep enough, it is removed, and the plate cleaned once more. In the same way are engraved the panels on which are printed the blue numbers of the certificate, the background of the numerals on the border, the faces and shading of the letters—in fact, all the fine parallel line-work on both the face and back is etched. To save time and labor, the engraver cuts with acid the heavy black lines and spaces in all bank-note work.

There are two other kinds of engraving on the silver certificate under consideration that are done with the aid of machinery. I refer to the counter on the right-hand side, the centre-piece marked "one silver dollar" on the face, and the counters and the border around the centre-piece on the back, and to the curious and complicated line-work on the back that looks at first sight like the plates of a coat of mail. The latter is done on a cycloidal ruling-machine, and the former on a geometrical lathe. Both of these machines may be found in a small room in the southwest corner of the bureau, and conveniently reached by a door from the engraving-room; it may be added that in this room, too, are made all the government seals. In cycloidal work etching ground and acid play an important part. After the etching ground has been laid, the piece of steel is fastened to the bed of the machine, and a pattern cut with a diamond point. The lines are then bitten into the plate with acid. The work on the geometrical lathe is not so quickly or easily done; but when it is done, it defies effectually the efforts of the counterfeiter. Human patience and skill are not great enough to enable the dishonest to imitate successfully the regularity and fineness of the lines and the complex pattern of a geometrical lathe. Any indistinctness in the latter or any irregularity in the former is conclusive evidence that the note is not genuine. The machine itself is intricate and expensive. It costs several thousand dollars, and is not, therefore, to be obtained by an impecunious counterfeiter; were its cost much less, or were he much richer than is usually the case, the removal and concealment of so large and heavy a machine would be a serious tax upon his wits and strength.

When a counter, for example, is to be made, the lathe is adjusted to some pattern. To make sure that the pattern is desirable, before work is begun on the steel plate, a piece of glass covered with etching ground, and smoked to give it a dark color, is fastened on the bed or chuck of the lathe. The diamond point in the stationary post above it is lowered, and the lathe set in operation. Obedient to its adjustments, the chuck moves irregularly and slowly about a centre, causing the point or tool to produce in a few moments a beautiful tracing. If the design meets the approval of the superintendent of the engraving division, a small piece of decarbonized steel is soldered to a larger piece of iron to give it stability, and secured to the chuck, and a fine steel point substituted for the diamond point. The shafting connecting with the great engine in the bureau gives motion to the lathe. If the steel is difficult to mark, a week or more is consumed in cutting the counter. Several times a day the tool has to be sharpened. The machine for this purpose is an expensive one. It must be absolutely perfect in construction; it must so hold the tool with reference to the stone that when returned to the post the point will have precisely the same position as before. If the point has been changed in the least, it will ruin the pattern, and render worthless the work already done. Sometimes the steel is so hard and gritty—necessitating the frequent sharpening of the tool and much loss of time—that a new piece has to be substituted.

Thus by hand or by machinery every part of a bank-note is engraved—the portraits, the vignettes, the counters and borders on the face and back, the panels, the background of portraits, and the face and shadows of certain styles of lettering. Some of these pieces, such as portraits, vignettes, counters, and sections of border-work, are kept in stock by every well-equipped bank-note engraving establishment. They are engraved when circumstances permit, and used when occasion occurs. The stock in the bureau is very large.

None of the dies—as the plates are called as they come finished from the hands of the engraver—is ever printed from. All government securities are printed from the reproductions of the transfer presses in the engraving division. It is safe to say that without these invaluable adjuncts of an engraving establishment the use of the modern bank-note could never have reached its present magnitude. No die could withstand the wear of printing the enormous issues of currency demanded by the governments of the world. The engraving of a sufficient number of duplicates would be so costly as to preclude an extensive manufacture of this invaluable device of trade and finance. But the transfer press renders possible and easy the manufacture of the one or two hundred reproductions of a single die that the plate presses of the bureau may be printing from at the same time.



THE TRANSFER PRESS.

Before describing it in detail, let us look at the designer. His, too, is a difficult task. He is hedged about and hampered by the restrictions of conventionality. When an order is received from the Treasury for a new note, he is directed to get up a design. With proofs of portraits, vignettes, and other plates in stock before him, he proceeds, with infinite patience and trouble, to design something that shall, in the first place, look like money; that shall, in the second place, be different from any money that has been printed; that shall, in the third place, be pleasing and artistic; that shall, in the fourth place, win the approval of the superintendent of the engraving division, the Chief of the Bureau, and the Secretary of the Treasury. The note to be designed, like every other note that has been designed, must have an inscription, signatures, counters, numbers, and a seal; it may or may not have (but usually does have) a border or a portrait or a vignette; it may have any two, or all three. The problem for him to solve is to combine these features, common to all notes, in such a way that the new note shall be quite different from them, and still be a good deal like them. When he has solved the problem to the satisfaction of everybody concerned, and thus earned a reward that he will never receive here below, his design is given to the transferrer, whose duty it is to assemble upon one plate, in accordance with the design, the various parts of the note that have been engraved especially for it or selected from the stock in the vaults.

The first thing that the transferrer has had to do is to take upon a roll the die of each of these parts. A roll is a steel cylinder about three inches in diameter, and a little wider than the engraving on the die. Its surface to the depth of an eighth of an inch or more has been decarbonized. The die, which was hardened after it was engraved, is adjusted to the bed of the press. In the cylinder has been inserted a mandril, upon which rest the armatures of the press. By a system of compound levers a pressure of several tons is brought to bear upon these armatures. The roll is thus pressed upon the die, and being moved back and forth by means of a large wheel, receives upon its periphery, in relief, the engraving of the die. In this way rolls are made of the portraits, vignettes, counters, sections of the border, etc. They are then hardened and ready for the operation of assembling or "laying down" on a single plate or bed-piece the several parts of the note.

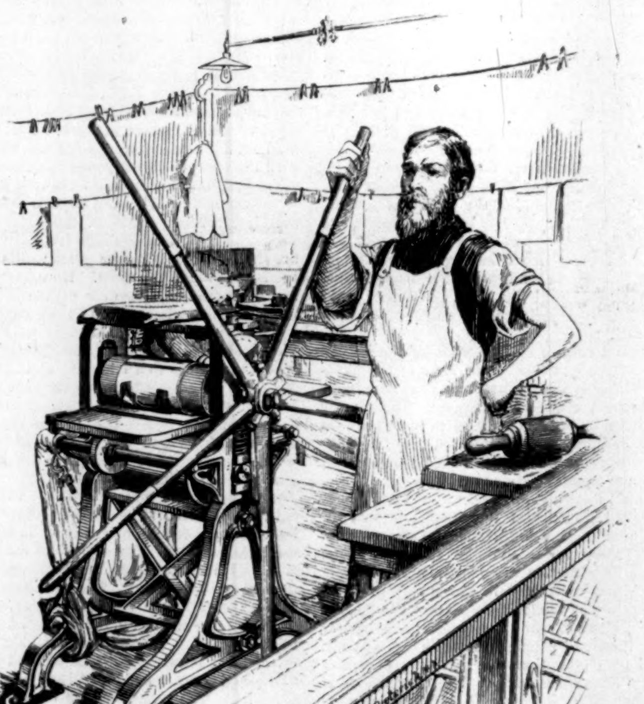
It should be stated here that without the most perfect engraving successful transferring cannot be done. Only that kind of steel-engraving known as line-engraving is permissible on bank-note work. If the portrait of Martha Washington be examined, it will be discovered that it consists of nothing but straight or curved lines, or of dots arranged in straight or curved lines. Every line must be separate and distinct, and it must be cut as deep as possible, else it cannot be properly transferred and clearly printed. Ordinary steel-engraving, with its stipple-work and other devices to secure artistic effects with the least labor, would be seriously injured in its passage through a transfer press. The bank-note engraver cannot resort to them. Whatever artistic feeling he imparts to a portrait or vignette must be done with lines alone—with lines in a certain direction or with a certain curvature, with heavy or light lines, with broken or continuous lines. The transfer press forbids absolutely any other treatment. In the presence of so heavy a restriction upon genius it can be understood that natural endowment and long years of study and practice are indispensable to a first-class bank-note engraver. Born with the high degree of intelligence and artistic taste and feeling essential to a work of art, he must have, in addition, the moral qualities of courage, endurance, self-denial, and fidelity to a jealous and exacting mistress; he must abandon the hope of wealth, though not of fame, and win that confidence of his fellow-men that will induce them to intrust him with the production of a work of the great possible value of a bank-note plate. That bank-note engravers should, as a rule, be men of character is but the inevitable result of the necessities of their art. Only one of the bank-note engravers in this country, I am told, ever brought discredit upon a profession proud of the honor and honesty of its members.

From the bed-piece, on which are assembled in intaglio the various parts of the note, a roll of sufficient width and diameter is taken up, hardened, and used to make the plates for printing. These plates are of the finest steel, highly polished, and large enough to contain four notes, or "subjects," as they are technically termed. Each plate is numbered, and each subject, according to its position on the plate, is lettered twice with one of the first four letters of the alphabet, known as check letters. Under one of the letters, or on some other part of the note, the number of the plate is repeated. An inspection of the letter and number will, therefore, disclose the position of the note on the plate and the number of the plate. The unwary counterfeiter that disregards these apparent trifles, and omits to letter his note, or letters it with some other letter besides A, B, C, or D, brands by omission or commission his work as spurious. Or if he uses a number that never appears on the denomination that he imitates, the fact reveals his dishonest hand. The burr or ridge raised by the heavy pressure of the transfer press around the plate and between each subject is scraped off. The plate is then sent to an engraver, who remedies any defects that he may discover; he unites more perfectly the sections of the border and the combinations of geometrical lathe-work.

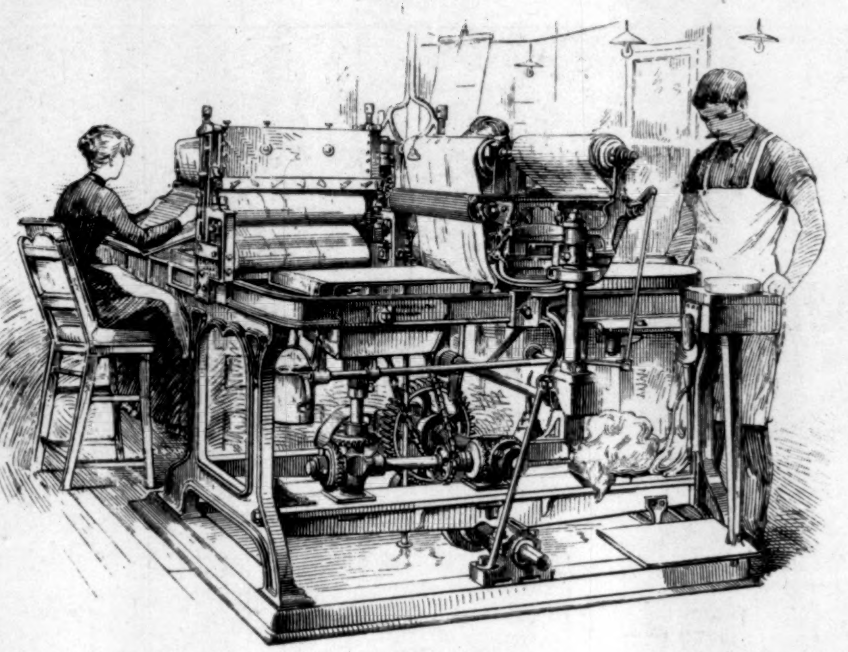
It now goes to the hardening-room, which opens off the engraving-room. Here it is prepared by the hardening process for the printing-press; in this room, in fact, all dies, rolls, and plates are carbonized or decarbonized. With its crucibles, blow-pipes, and charcoal furnaces it looks as though it might be the workshop of some old alchemist. In one corner is a large sheet-iron contrivance (resembling the quarter-section of a pyramid) to carry away the smoke from the fires beneath and the fumes from a poisonous drug used to harden plates. Near by is a low, cylindrical iron stove lined with fire-brick. Inside is a small iron pot to contain a quantity of ivory carbon and the rolls or dies to be hardened. At the bottom at equal intervals are four holes, and entering each hole is a gas jet. Air is mingled with the gas, and driven by a bellows with great force against the pot. The chemical action set up by the heat transfers the carbon to the rolls or dies, which, after the lapse of an hour or two, are plunged into cold water. If they are to be decarbonized, some substance like scraps of soft iron, having a stronger affinity for carbon than the steel, is substituted for the ivory carbon, and the application of heat reverses the process.

Plates are hardened in another way. Cakes of cyanuret of potassium, a virulent poison, are melted in the large retorts suspended in the charcoal furnaces, which can be shut off from the rest of the room by sliding doors. The plate to be carbonized is locked in a frame, which is attached to a long iron rod. One of the big muscular men in the room, with sleeves rolled to the shoulders and brow dripping with perspiration, seizes the rod, and plunges the plate into the liquid. Kept there four or five minutes, or until it becomes a silver white, it is removed and cooled, first in a bath of linseed-oil, and finally in a tank of water. Immediately another muscular operative takes the plate from the frame, and laying it on a bench, pours oil and emery on it, and with a brush rubs it vigorously for a few moments. After their removal more oil and a finer kind of polishing sand are applied; it is rubbed vigorously again and wiped off. Thus thoroughly cleaned, it is carried to the proof presses in the engraving-room, and proofs are pulled, which are examined by the engravers. If the engraving is found to be satisfactory, and if the plate is not yet needed for printing purposes, it is returned to the hardening-room to be waxed to protect it against rust. It is then ready for the vaults, where it remains until drawn out for the printer.

There are two vaults, each large enough for a bedroom, one for the dies, rolls, and plates of the national securities, and the other for the dies, rolls, and plates of the national bank-notes, both containing between thirty and forty thousand separate pieces of steel. They have double doors and time locks. No cracksman could enter them in the daytime without discovery by the custodian or his assistants; nor by night, since every room in the bureau is lighted from dark until daylight, and patrolled constantly by watchmen. Having no ventilation, they are never pleasant to be in; in summer they are stifling. The electric lights with which they are illuminated during business hours disclose on every side long narrow spaces for the plates and little drawers for the dies and rolls. In the centre of the vaults are cabinets, in which are kept the plates for surface or ordinary printing. Over each plate and on each box there is a number. In the books of the custodian are recorded the number and a description of every die, roll, and plate in stock, or in the hands of the engravers, transferrers, or printers. Indeed, the moment a piece of steel has on it a mark that can give it the slightest value it is numbered, and must be turned into the vaults at the close of the day's work, and no piece can be withdrawn without a requisition from the superintendent of the engraving division or of the printing division. The requisitions are filed away, so that from an inspection of them and of the books of the custodian the whereabouts of any given die, roll, or plate can be ascertained at any given time. In the morning, in compliance with the requisitions that he has received, the custodian lays out the plates called for by the printing division and the pieces of steel on which the men in the engraving division are at work. Clerks from these divisions verify each number before accepting any die, roll, or plate, to make sure that no error has been committed. For the same reason the custodian verifies, upon their return, the number on every piece of steel delivered to him. Where so much care is exercised mistakes are impossible.



A HAND PRINTING-PRESS.



STEAM PRINTING-PRESS.

What finally becomes of these thousands of pieces of steel? When the days of their usefulness are at an end they are melted up. Every two or three years a destruction committee from the Treasury visits the bureau and examines the contents of the vaults. They bring along with them a set of books containing a record of all the dies, rolls, and plates left in the vaults the time before, and compare their numbers with this record to see that no piece has been lost in the mean while. On loose schedule sheets they note the new work added to the stock since the last examination. After going through the vaults and selecting for destruction the pieces that have become useless, they make a new record of what is left and of the new work, and return it to the Treasury for the next committee. The condemned pieces are thrown into strong boxes, fastened with bands of iron, and carried to the navy-yard. So cautious are the committee that no piece shall be stolen or lost that they will not intrust the boxes to the care of anybody else. They accompany these condemned treasures themselves, take out each piece, and after comparing its number with the schedules in their possession and in the boxes, cast it into a crucible with their own hands. They watch the metal until it melts beyond recognition. More worthless material than this steel after it is cooled can scarcely be imagined. That which has not been moulded for the committee into paper-weights of various designs, which are so hard that they cannot be cut with a file or polished with an emery wheel, is thrown away.

II.—THE PRINTING DIVISION.

Visitors to the bureau are never permitted to wander about its rooms as they like, or to examine whatever takes their fancy. So carefully watched is every avenue, that they cannot step beyond the precincts of the reception-room without being confronted by an inquisitive attendant, and warned that it is against the rules. To guard the operatives from disturbance, no one not having special permission is admitted to inspect the bureau except on Saturday. On that day the general public may visit certain divisions. They meet in the reception-room at the right of the main entrance, and after being divided into small parties, they are escorted to the upper floors, where the rooms are crowded with machinery and operatives, and where the life and activity have more popular interest than the quiet of the engraving-room. Were they to study the method of making paper-money in the natural order, they would first visit the wetting division, for it is here that the blank paper is prepared for the printer.

The Bank of England, as is well known, does not depend for protection against the counterfeiter upon the excellence of the engraving upon its notes, which bear an exceedingly simple design printed from stereotype-plates, but upon the character of its paper, which has a peculiar water-mark and is manufactured in its own mills. When the bureau was first organized, Mr. Clark conceived the idea that a similar distinctive paper, manufactured and used exclusively by the government, would enable the public to detect counterfeits more readily than the ordinary bank-note paper. Although the bureau has never followed the policy of the Bank of England, Mr. Clark, in his testimony before the Garfield Investigating Committee in 1864, claimed that his experiments were successful. "Their result was," he said, "the production of a paper interspersed with a fibre of a different color and different material and perfectly insoluble in water. It could," he added, "never be reduced again to pulp. It was like cloth in that respect; you could wash it in hot or cold water, boil a pudding in it, without affecting it. If the national currency had been printed on that, when you wanted to test its genuineness at any time you had only to go to the washbowl and wash it to pieces. If you washed it away, you would put a counterfeit out of existence; and if it was a good note no harm could come to it, but it would simply be cleaned." This paper did not come into general use; but the colored fibres, known as "spider legs," were retained, and form at the present time a distinctive feature of our currency. The paper of the United States and national bank-notes, however, differs somewhat from that of silver certificates; it has, besides the fibre, a silk thread running the length of the note. But each kind, like the water-marked green paper for revenue stamps and the water-marked white paper for checks, is the finest quality of pure linen paper, manufactured from new duck cloth and canvas clippings.

The paper consumed by the bureau during the early years of its existence was manufactured in the basement of the Treasury; but the mill caused so much noise and emitted an odor so disagreeable that it was eventually abolished. The paper on which securities are now printed is manufactured by private concerns, whose mills are vigilantly guarded by government inspectors to prevent loss or theft. After its shipment to Washington it is stored in vaulted rooms in the sub-basement of the Treasury, to be drawn upon requisition whenever an order is given for the printing of any security. It is then sent in packages of a thousand sheets to the wetting division in the upper floor of the L, carefully counted by girls, who see that the requisition has been properly filled, and divided into sections of from ten to forty sheets each. These sections are laid between wet cloths and stacked on the floor. The paper is next shifted—that is, the dry sheets in the centre of the sections are turned toward the cloths and allowed to remain until they too are thoroughly damp. It is then counted a second time, and stored in an adjacent room ready for delivery to the printer.

The large room where the printing is done, and to which most visitors are first taken, occupies the third floor of the bureau. The rattle of the paper and presses, the click of the plates, and the odor and smutches of ink form a striking contrast to the stillness and cleanliness of the engraving division. Every foot of available space is occupied with machinery and the three or four hundred operatives. The printers, in colored shirts, with sleeves rolled to the shoulders, and faces and hands stained with ink, are working with noticeable rapidity and energy; and their assistants, always girls, in well-worn dresses protected by long aprons, are busy removing the printed sheets or moistening and putting on the blank sheets. Some of the men are large and muscular, others are lean and spare; some are young, and others beyond the middle age. The women are of all ages, from sixteen, with rosy cheeks, to sixty, with gray hair. Some of them have very attractive faces, but there are others not so pleasing. In spite of the unfavorable surroundings, the natural taste of the sex for ornament is not suppressed. Here and there may be seen a head elaborately frizzled, or a ruffle about a pretty neck, or above an ink-stained apron the blushing face of a rose.

A closer examination shows that the printers do not all work at the same kind of presses, nor are they all doing the same kind of work. Some are printing the black faces of the notes on the old-fashioned plate press, or the D press, while others are printing the green or brown backs, and still others the various internal revenue stamps on complicated steam-presses. The ordinary plate press, with its long radial handles, called a "spider," is a simple affair. Besides its iron framework, it consists of a plank, also of iron, propelled between two steel rollers thickly covered with felt to soften the pressure. The plate is heated slightly on a gas-stove. The printer seizes a roller, which resembles a rolling-pin, and after rolling it vigorously over an inking-table, he rolls it with equal vigor over the plate. The heat and the pressure applied cause the ink to penetrate the deepest line of the engraving. The surface is, of course, covered with a thick coating of ink, which is wiped off with a piece of muslin cloth. In order to clean it perfectly, the printer rubs his hand on a ball of whiting, and polishes the plate with the greatest possible care. This part of his work requires skill and judgment. He must see to it that every particle of ink is removed from the surface of the plate, otherwise it will smutch and spoil the sheet. He must see to it, too, that he does not rub the ink out of the depressed lines, otherwise he will get no impression, or a very imperfect one. This work done to his satisfaction, he transfers the plate to the bed of the press, and upon it his assistant lays a sheet of dampened paper. Grasping the spider with both hands, he forces the bed and the plate between the rollers. The assistant pulls the sheet off, examines it to make sure that it has been properly printed, and lays it on the pile of printed sheets on the shelf at her side. If, however, it does not in her judgment or that of the printer appear to be printed perfectly, she tears a rent in it; or if both are in doubt about the matter, they leave final decision to the regular examiners in the room below, who by long experience have become wonderfully expert in deciding the fate of printed sheets. The plate is now on the other side of the press. It is again heated, inked in, and polished, as before, and run with another sheet between the rollers back to the starting-point.

These changes of position take considerable time, and add not a little to the noise in the room. Both difficulties are obviated to a large degree by the D press, which is exactly like the other press, except that a part of the upper roller is cut away, making a cross-section look like the letter from which it derives its name. As soon as the impression is effected, the bed of the press, to which is attached a counterpoise, runs back automatically to the other side, leaving the plate untouched by the upper roller. A gas jet under the press heats the plate, so that the printer does not have to remove it. He can ink it in and polish it without changing his position. In the case of the steam-press all these operations are going on simultaneously, and all, save that of polishing, are done by machinery. The four plates that it requires move around a square frame, and while the two assistants are either putting on or taking off a sheet, and while one plate is being printed from, another is inked in, and a third wiped, the fourth is being polished by the printer, who does nothing else.

With one of these presses a man can print four times as many impressions as with a hand-press. So largely have they reduced the cost of certain classes of work, like internal revenue stamps and the backs of notes, that they have been introduced into the bureau quite extensively. But the printers, like the women that trimmed and separated notes by hand in the early history of the establishment, have bitterly opposed their introduction. So strenuous have been their efforts during the past year to have them removed that one of the last acts of the Fiftieth Congress was to abolish them, and thus to cripple very seriously the productive capacity of the bureau. The printers claim, of course, that the work done on them is not as good as that done on the hand-press. But the real cause of their opposition is the fear that the steam-presses will drive out the hand-presses, and consequently deprive them of employment; for to the untrained eye, and often to the trained eye even, there is no apparent difference between the backs of notes and the revenue stamps printed on steam-presses and those on hand-presses.

All presses, whether hand or steam, have registers attached to them. Every impression recorded calls for a sheet of printed securities, or a waste sheet, or "tissue," used in adjusting the press. At the close of the day's work a clerk in the division examines each register, notes the count indicated, and compares it with the number of printed sheets and tissues delivered by the printer. These two counts must agree not only with each other, but with the count of the wetting division. If there is no discrepancy, all is well; if there is one, it must be accounted for before a single printer or assistant is permitted to leave the building; for every sheet, whether it is only blank paper or an incompletely printed security, is as valuable, according to the rules of the bureau, as though it had been issued perfect from the Treasury; and if lost, it is assessed to the full amount of the face upon the employés of the division where it disappeared. Sometimes a sheet is mislaid, and a little search brings it to light. Perhaps the printer has neglected to call the attention of the clerk that, through a defect in the press or in the register, an impression has been recorded without the printing of a sheet to correspond, but he is seldom negligent of this duty. The moment that he discovers any trouble of so serious a nature, he summons the clerk and explains the matter. If his explanation does not seem satisfactory, his assistant is called to one side and closely questioned. If she tells a plausible story, and it agrees with his, the explanation is accepted, and both relieved of responsibility. It thus becomes absolutely impossible for a printer to smuggle in a blank sheet of paper, cover it with the impressions of thousand-dollar notes, and take it away with him. Collusion with his assistant would not enable him to do it, and no attempt at such a fraud is on record.

Does a plate ever wear out? One would imagine that a hardened piece of steel treated no worse than the moderate pressure of a press would last a lifetime; it does not, however. After it has yielded fifty or sixty thousand impressions it begins to show signs of wear. The engraving loses its delicacy, and the lines look coarse and heavy. The plate must then be discarded as worthless, or re-entered, as they say, and its usefulness renewed. The operation is effected by the transfer press. The plate is adjusted in the same way that it was when laid down, and with the original roll the work on each subject is made as sharp and distinct as at first. It may thus be restored many times, and its life prolonged, until the steel becomes so thin that it cannot be re-entered again.

If the government has not found it practical to manufacture the paper for its own securities, it has at least found it desirable to make the ink with which they are printed. As the production of this indispensable adjunct of the printer's art is simple and easy, the bureau can undoubtedly better afford to mix and grind it than to buy it. The picturesque process of burning the linseed-oil to eliminate the fat is carried on under a dingy shed in the rear. Heated in large vessels to a certain temperature, the oil is set on fire, and allowed to burn until it is reduced to the proper consistency. The thick oil is called "strong," and is used for bank-note ink, which is the highest grade; the "weak" oil is for revenue and other low grades of ink. It is taken to the low dark rooms in the sub-basement, where it is mixed with dry powder and ground in small iron mills. As the fluid runs out in a ropy stream, it is caught

NUMBERING MACHINE.